

## **WATER METERS**

### **NSF/ANSI 61 Certified**

Pulsafeeder's multi-jet water meters provide value by offering efficient, accurate operation for potable and non-potable water applications. The meters are offered in three body types: Plastic (potable water) Low-lead brass (potable water) and Leaded brass (non-potable water). The water meters are available in both totalizing & contacting head type providing a dry contact output proportional to flow and can interface directly with both Pulsafeeder pumps and controllers. A totalizing register dial records flow over a wide range with low head loss.



### **FEATURES**

- Sensor fastens to lens without removing top
- Calibration plug seal wire for tamper evidence
- Union end couplings for each service
- Factory set pulse rates
- Changing pulse rate requires no special tools
- Adjustable GPC (Tools required, see instruction manual for more details)

### **APPLICATIONS**

- Plastic Body NSF 61 certified – Residential Water Conditioning and Potable Water
- Brass Lead-Free NSF 61 certified – Municipal, Industrial, Heat Transfer Cooling Tower and Boiler

## MODEL SELECTION - BRASS

| NSF 61 Certified Lead Free Brass Contacting Water Meters - Cold Water |               |                 |                              |
|-----------------------------------------------------------------------|---------------|-----------------|------------------------------|
| Part Number                                                           | Rating        | Connection Size | Gallons Per Contact (GPC)    |
| MTR000-G                                                              | .25- 20 GPM   | 1/2" NPT        | Totalizer / Less Reed Switch |
| MTR004-G                                                              | .25- 20 GPM   | 1/2" NPT        | 1 GPC                        |
| MTR100-G                                                              | .25- 20 GPM   | 3/4" NPT        | Totalizer / Less Reed Switch |
| MTR101-G                                                              | .25- 20 GPM   | 3/4" NPT        | 0.1 GPC                      |
| MTR102-G                                                              | .25- 20 GPM   | 3/4" NPT        | 0.25 GPC                     |
| MTR103-G                                                              | .25- 20 GPM   | 3/4" NPT        | 0.5 GPC                      |
| MTR104-G                                                              | .25- 20 GPM   | 3/4" NPT        | 1 GPC                        |
| MTR107-G                                                              | .25- 20 GPM   | 3/4" NPT        | 10 GPC                       |
| MTR300-G                                                              | .75- 50 GPM   | 1" NPT          | Totalizer / Less Reed Switch |
| MTR301-G                                                              | .75- 50 GPM   | 1" NPT          | 0.1 GPC                      |
| MTR302-G                                                              | .75- 50 GPM   | 1" NPT          | 0.25 GPC                     |
| MTR304-G                                                              | .75- 50 GPM   | 1" NPT          | 1 GPC                        |
| MTR307-G                                                              | .75- 50 GPM   | 1" NPT          | 10 GPC                       |
| MTR310-G                                                              | .75- 50 GPM   | 1" NPT          | 100 GPC                      |
| MTR400-G                                                              | 1.5 - 100 GPM | 1.5" NPT        | Totalizer / Less Reed Switch |
| MTR402-G                                                              | 1.5 - 100 GPM | 1.5" NPT        | 0.25 GPC                     |
| MTR404-G                                                              | 1.5 - 100 GPM | 1.5" NPT        | 1 GPC                        |
| MTR407-G                                                              | 1.5 - 100 GPM | 1.5" NPT        | 10 GPC                       |
| MTR410-G                                                              | 1.5 - 100 GPM | 1.5" NPT        | 100 GPC                      |
| MTR504-G                                                              | 2 - 160 GPM   | 2" NPT          | 1 GPC                        |
| MTR507-G                                                              | 2 - 160 GPM   | 2" NPT          | 10 GPC                       |
| MTR510-G                                                              | 2 - 160 GPM   | 2" NPT          | 100 GPC                      |

## MODEL SELECTION - LEADED BRASS

| Brass Contacting Water Meters - Cold Water |               |                 |                              |
|--------------------------------------------|---------------|-----------------|------------------------------|
| Part Number                                | Rating        | Connection Size | Gallons Per Contact (GPC)    |
| MTR100                                     | .5 - 30 GPM   | .50" NPT        | Totalizer / Less Reed Switch |
| MTR200                                     | .5 - 30 GPM   | .75" NPT        | Totalizer / Less Reed Switch |
| MTR201                                     | .5 - 30 GPM   | .75" NPT        | 0.1 GPC                      |
| MTR202                                     | .5 - 30 GPM   | .75" NPT        | 0.25 GPC                     |
| MTR203                                     | .5 - 30 GPM   | .75" NPT        | 0.50 GPC                     |
| MTR204                                     | .5 - 30 GPM   | .75" NPT        | 1 GPC                        |
| MTR207                                     | .5 - 30 GPM   | .75" NPT        | 10 GPC                       |
| MTR210                                     | .5 - 30 GPM   | .75" NPT        | 100 GPC                      |
| MTR300                                     | .75 - 50 GPM  | 1" NPT          | Totalizer / Less Reed Switch |
| MTR302                                     | .75 - 50 GPM  | 1" NPT          | 0.25 GPC                     |
| MTR304                                     | .75 - 50 GPM  | 1" NPT          | 1 GPC                        |
| MTR307                                     | .75 - 50 GPM  | 1" NPT          | 10 GPC                       |
| MTR310                                     | .75 - 50 GPM  | 1" NPT          | 100 GPC                      |
| MTR400                                     | 1.5 - 100 GPM | 1.5" NPT        | Totalizer / Less Reed Switch |
| MTR404                                     | 1.5 - 100 GPM | 1.5" NPT        | 1 GPC                        |
| MTR407                                     | 1.5 - 100 GPM | 1.5" NPT        | 10 GPC                       |
| MTR410                                     | 1.5 - 100 GPM | 1.5" NPT        | 100 GPC                      |
| MTR507                                     | 2 - 160 GPM   | 2" NPT          | 10 GPC                       |
| MTR510                                     | 2 - 160 GPM   | 2" NPT          | 100 GPC                      |

## MODEL SELECTION - PLASTIC

| NSF 61 Certified Plastic Contacting Water Meters - Cold Water |               |                 |                              |
|---------------------------------------------------------------|---------------|-----------------|------------------------------|
| Part Number                                                   | Rating        | Connection Size | Gallons Per Contact (GPC)    |
| MTR000-P                                                      | .25- 20 GPM   | 1/2" NPT        | Totalizer / Less Reed Switch |
| MTR004-P                                                      | .25- 20 GPM   | 1/2" NPT        | 1 GPC                        |
| MTR100-P                                                      | .25- 20 GPM   | 3/4" NPT        | Totalizer / Less Reed Switch |
| MTR101-P                                                      | .25- 20 GPM   | 3/4" NPT        | 0.1 GPC                      |
| MTR102-P                                                      | .25- 20 GPM   | 3/4" NPT        | 0.25 GPC                     |
| MTR104-P                                                      | .25- 20 GPM   | 3/4" NPT        | 1 GPC                        |
| MTR104-P-H                                                    | .25- 20 GPM   | 3/4" NPT        | 1 GPC / Hall Effect Sensor   |
| MTR104-P-L                                                    | .25- 20 GPM   | 3/4" NPT        | 1 LPC                        |
| MTR107-P                                                      | .25- 20 GPM   | 3/4" NPT        | 10 GPC                       |
| MTR107-P-L                                                    | .25- 20 GPM   | 3/4" NPT        | 10 LPC                       |
| MTR300-P                                                      | .75- 50 GPM   | 1" NPT          | Totalizer / Less Reed Switch |
| MTR301-P                                                      | .75- 50 GPM   | 1" NPT          | 0.1 GPC                      |
| MTR302-P                                                      | .75- 50 GPM   | 1" NPT          | 0.25 GPC                     |
| MTR304-P                                                      | .75- 50 GPM   | 1" NPT          | 1 GPC                        |
| MTR304-P-H                                                    | .75- 50 GPM   | 1" NPT          | 1 GPC / Hall Effect Sensor   |
| MTR304-P-L                                                    | .75- 50 GPM   | 1" NPT          | 1 LPC                        |
| MTR400-P                                                      | 1.5 - 100 GPM | 1.5" NPT        | Totalizer / Less Reed Switch |
| MTR401-P                                                      | 1.5 - 100 GPM | 1.5" NPT        | 0.1 GPC                      |
| MTR402-P                                                      | 1.5 - 100 GPM | 1.5" NPT        | 0.25 GPC                     |
| MTR404-P                                                      | 1.5 - 100 GPM | 1.5" NPT        | 1 GPC                        |
| MTR404-P-H                                                    | 1.5 - 100 GPM | 1.5" NPT        | 1 GPC / Hall Effect Sensor   |

## COOLING TOWER METER SELECTION

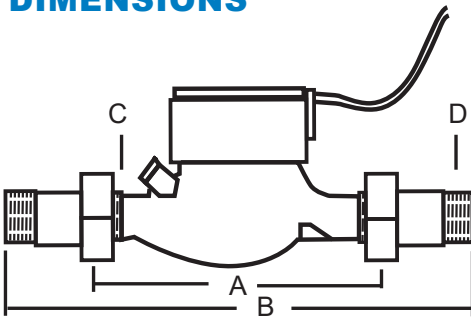
| Cooling Tower Size in Tons | Make-Up Water Required (GPM) | Condenser Water Circulation (GPM) | Suggested Meter Size |
|----------------------------|------------------------------|-----------------------------------|----------------------|
| 100 - 400                  | 4 - 16                       | 300 - 1,200                       | 3/4"                 |
| 400 - 800                  | 20 - 32                      | 1,500 - 2,400                     | 1"                   |
| 800 - 1,600                | 26 - 64                      | 2,700 - 4,800                     | 1.5"                 |
| 1,600 - 3,000              | 64 - 120                     | 4,800 - 9,000                     | 2"                   |

## ENGINEERING DATA

| Multi-Jet                     |                                                |                            |               |                    |     |
|-------------------------------|------------------------------------------------|----------------------------|---------------|--------------------|-----|
| Power                         | 6mA at 12 Vdc (Hall Effect Sensor Only)        |                            |               |                    |     |
| Temperature                   | 105° F (40° C) max                             |                            |               |                    |     |
| Pressure                      | 150 PSI operating (10.3 Bar)                   |                            |               |                    |     |
| Accuracy                      | ± 1.5% of reading                              |                            |               |                    |     |
| Materials                     |                                                |                            |               |                    |     |
|                               | Body                                           | Plastic or Eco-brass alloy |               |                    |     |
|                               | Internals                                      | Engineered thermoplastic   |               |                    |     |
|                               | Magnet                                         | Alnico                     |               |                    |     |
|                               | Fittings                                       | Lead-free tail piece       |               |                    |     |
| Connection Gasket             | NSF-61 Certified                               | EPDM                       |               |                    |     |
|                               | Non-Certified                                  | Natural Rubber             |               |                    |     |
| Pulse Output                  |                                                |                            |               |                    |     |
|                               | Sensor                                         | Totalizer Only             | Reed Switch   | Hall-effect Device |     |
|                               | Max Current                                    | N/A                        | 20 mA         | 20 mA              |     |
|                               | Max Voltage                                    | N/A                        | 24 Vdc or Vac | 24 Vdc             |     |
| Cable Length                  | 4" (1.21 m) standard (2000' maximum run)       |                            |               |                    |     |
| Flow Rates - Multi-Jet (GPM)* |                                                | 3/4"                       | 1"            | 1.5"               | 2"  |
|                               | Minimum                                        | 0.25                       | 0.75          | 1.5                | 2   |
|                               | Maximum                                        | 20                         | 50            | 100                | 160 |
| Regulatory                    | Lead-Free Brass and Plastic Body - NSF/ANSI 61 |                            |               |                    |     |

\*Caution: Excessive Flow can cause breakage. Do not exceed recommended maximums.

## DIMENSIONS



| Brass Body            | 3/4"    | 1"      | 1.5"    | 2"      |
|-----------------------|---------|---------|---------|---------|
| A (Body)              | 7 1/2"  | 10 1/4" | 11 3/4" | 11 3/4" |
| B (Body w/ Couplings) | 11 5/8" | 15"     | 17"     | 17 5/8" |
| C (IPS Thread)        | 1"      | 1 1/4"  | 2"      | 2 1/2"  |
| D (NPT Thread)        | 3/4"    | 1"      | 1 1/2"  | 2"      |
| Lead-Free Brass Body  | 3/4"    | 1"      | 1.5"    | 2"      |
| A (Body)              | 7 1/2"  | 10 3/4" | 12 5/8" | 15 1/4" |
| B (Body w/ Couplings) | 11 5/8" | 15.5"   | 17.75"  | 21"     |
| C (IPS Thread)        | 1"      | 1 1/4"  | 2"      | 2 1/2"  |
| D (NPT Thread)        | 3/4"    | 1"      | 1 1/2"  | 2"      |
| Plastic Body          | 3/4"    | 1"      | 1.5"    |         |
| A (Body)              | 7 1/2"  | 10 1/4" | 11 3/4" |         |
| B (Body w/ Couplings) | 11 5/8" | 15"     | 17"     |         |
| C (IPS Thread)        | 1"      | 1 1/4"  | 2"      |         |
| D (NPT Thread)        | 3/4"    | 1"      | 1 1/2"  |         |

## SHIPPING WEIGHT

|               | 3/4" | 1"     | 1.5"   | 2"    |
|---------------|------|--------|--------|-------|
| Plastic - LBS | 3 lb | 4.5 lb | 7.5 lb | N/A   |
| Brass - LBS   | 6 lb | 8 lb   | 13 lb  | 16 lb |

## PULSE RATE

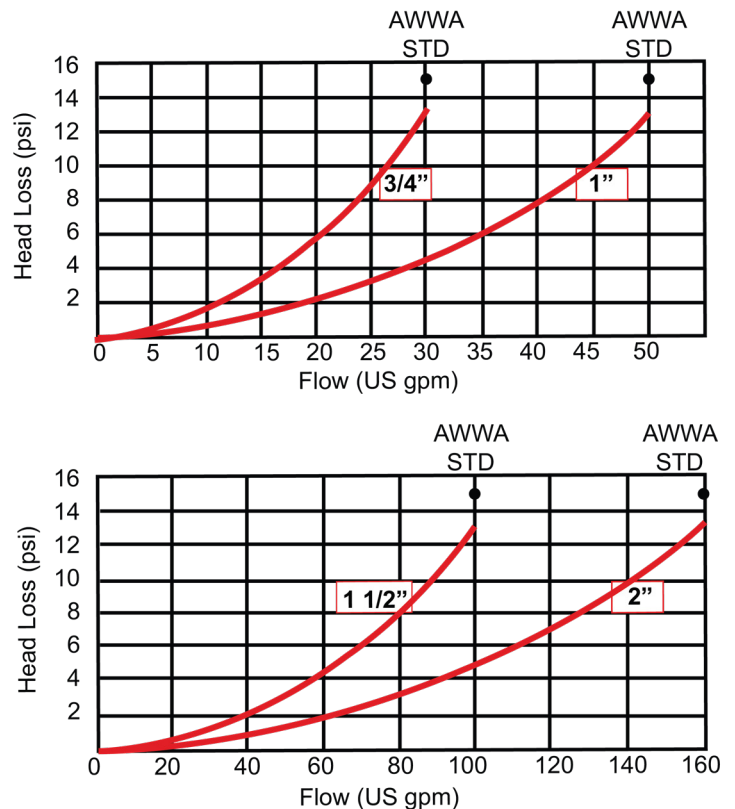
| Pulse Rate                      | Magnetic Pointer Dial Position |
|---------------------------------|--------------------------------|
| 10 Pulse Per Gallon (3/4" only) | x 0.01                         |
| *4 Pulse Per Gallon             | x 0.1                          |
| 1 Pulse Per Gallon              | x 0.1                          |
| 10 Gallons Per Pulse            | x 1                            |
| 100 Gallons Per Pulse           | x 10                           |

\* A special magnet is required to achieve a rate of 4 pulses per gallon. It should be placed on the x.01 dial, with non-magnetic pointers on the remaining dials.

## DIAL PLATE



## PRESSURE LOSS CURVE



## PARTS

| Lead Free Brass Meter Replacement Parts |             |                                                           |
|-----------------------------------------|-------------|-----------------------------------------------------------|
| Connection                              | Part Number | Description                                               |
| 3/4"                                    | MTRG1-1     | Lid w/ Hinge Pin                                          |
| 3/4"                                    | MTRG1-4     | Coupling Assembly w/ Gaskets                              |
| 1"                                      | MTRG3-1     | Lid w/ Hinge Pin                                          |
| 1"                                      | MTRG3-2     | Gasket Lens Assembly                                      |
| 1"                                      | MTRG3-4     | Coupling Assembly w/ Gaskets                              |
| 1.5"                                    | MTRG4-1     | Lid w/ Hinge Pin                                          |
| 1.5"                                    | MTRG4-2     | Gasket Lens Assembly                                      |
| 1.5"                                    | MTRG4-3     | Internal Assembly w/ Register only available for MTR407-G |
| 1.5"                                    | MTRG4-4     | Coupling Assembly w/ Gaskets                              |
| 2"                                      | MTRG5-1     | Lid w/ Hinge Pin                                          |
| 2"                                      | MTRG5-2     | Gasket Lens Assembly                                      |
| 2"                                      | MTRG5-5     | Connection Gasket(2pcs)                                   |

## EXPLODED VIEW

