

## WM-NLD Series

### Positive Displacement Water Meters



## Installation, Operation, & Maintenance Manual



Scan for more product information  
Doc. AA-WMNLD-IOM-2017.06.19

## 1. General Information:

WM-NLD lead-free water meters use the internationally accepted nutating disc, positive displacement principle. A gear train drives the register totalizer dials and register. This meter comes standard with pulse output (see pulse output details).

## 2. Specifications:

### Materials:

Body & flanges: Lead free brass

Internals: Engineered thermoplastic

Magnet: Alnico

**Maximum Pressure:** 150 PSIG

**Maximum Temperature:** 120 °F

**Accuracy:** 1.5%

**Sensor:** dry contact reed switch

**Pulse Output Rate:** 1 pulse per gallon

**Maximum Current:** 10mA

**Maximum Voltage:** 24VAC/DC

**Cable Length:** 2 ft. (max. run up to 5000 ft.)

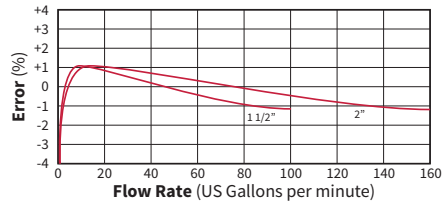
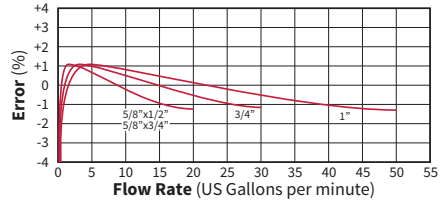
## 3. Installation:

1. Thoroughly flush the service line upstream of the meter to remove dirt and debris. We recommend installing a strainer upstream of the meter if water quality is poor.
2. The meter can be installed in horizontal, vertical or inclined position. Make sure that the direction of flow follows the arrow cast on the meter body.
3. Slowly open any upstream valves to prevent damage to the meter.

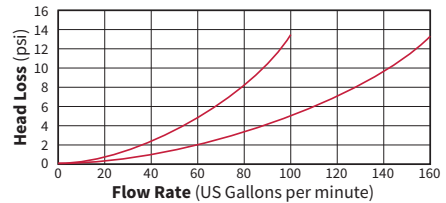
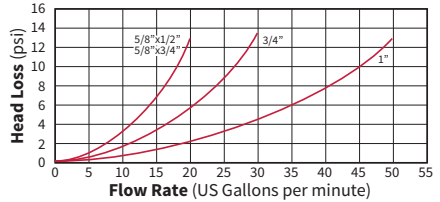
## 4. Calibration:

New meters are factory tested to meet the AWWA C-700 meter accuracy specification.

## 5. Accuracy Curves:



## 6. Head Loss Curves:



## 7. Pulse Output:

The pulse output is a simple dry contact reed switch. To use the pulse output, the 2 wires from the cable must be hooked up to the proper terminals of your PLC, HMI, or simple pulse counter. Polarity does not matter for these wires. If you are using the Assured Automation KAL-DO6 pulse counter, the terminals to use are #2 and #6.

## 8. Approvals and Certifications:

- Meets NSF 61 Annex G standards
- Conforms to AWWA-C700

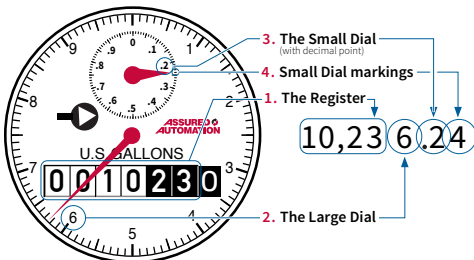
## 9. Flow Ranges:

Model	Size	High Flow	Cont. Flow	Low Flow	Normal Flow
WM-NLD-050-R/1P	1/2"	20	15	1/8	1-20
WM-NLD-075-R/1P	3/4"	20	15	1/8	1-20
WM-NLD-7575-R/1P	3/4"	30	15	1/4	2-30
WM-NLD-100-R/1P	1"	50	25	1/4	3-50
WM-NLD-150-R/1P	1 1/2"	100	50	1 1/2	5-100
WM-NLD-200-R/1P	2"	160	80	2	8-160

## 10. Reading the Meter:

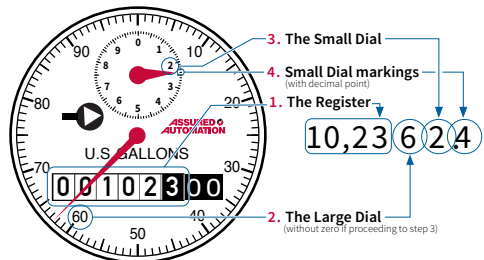
### Sizes 1/2" to 1"

1. First read the numbers from the dials on the register. They end with the 10's digit. If that is accurate enough, simply add the 0 for the 1's digit represented by permanently painted 0 next to the register and you are done.
2. For greater accuracy, take the number from the large needle and numbers around the face. If the needle is in-between two numbers, use the lower number. Use this in place of the painted 0. This will give you the amount to the nearest gallon.
3. For even greater accuracy, take the number from the smaller needle, again taking the lower number when in-between two. Add this (with the decimal point) to the other numbers. This will give you the amount to the nearest 10th of a gallon.
4. For the greatest accuracy, count the markings between the lower number (chosen in step 3) and the needle. This will be the 100ths digit.



### Sizes 1 1/2" to 2"

1. First read the numbers from the dials on the register. They end with the 100's digit. If that is accurate enough, simply add the two 0s for the 10's and 1's digits represented by permanently painted 0's next to the register and you are done.
2. For greater accuracy, take the number from the large needle and numbers around the face. If the needle is in-between two numbers, use the lower number. Use this in place of the painted 0's. This will give you the amount to the nearest 10 gallons.
3. For even greater accuracy, take the number from the smaller needle, again taking the lower number when in-between two. Add this to the other numbers. This will give you the amount to the nearest gallon.
4. For the greatest accuracy, count the markings between the lower number (chosen in step 3) and the needle. This will be the 10ths digit.



## 11. Parts & Accessories:

### Flange Kits: (for 1 1/2" & 2" meters)



Two flanges (NPT threaded for connection to pipe) and two gaskets

**WMNLD-F-150** = Flange kit for 1 1/2" meters

**WMNLD-F-200** = Flange kit for 2" meters

### Check Valves:



**C112CVLFN** = 1/2"

**D112CVLFN** = 3/4"

**E112CVLFN** = 1"

**G112CVLFN** = 1 1/2"

**H112CVLFN** = 2"

Lead free brass check valves are available to prevent reverse flow through meter. Reverse flow will deduct from the meter's total. The use of a check valve will also prevent the meter and upstream water from being contaminated by debris or additives like fertilizer that get added downstream from the meter.

### Garden Hose Adapters: (set)



One NPT Female x Male Garden Hose Thread  
One NPT Female x Female Garden Hose Thread

**WMGHA050** = Adapter set for 1/2" meters

**WMGHA075** = Adapter set for 3/4" meters

### Digital Display with Reset:



Add a remote digital display that can be reset to simplify reading. Simply attach the 2 wires from the meters pulse output to terminals #2 and #6 on the display.

**KAL-D06** = digital display only (for panel mount)

**KAL-D06-DIN32-ENC** = display in weatherproof enclosure

## 12. Warranty:

WM-NLD water meters are warranted to perform to AWWA new meter accuracy standards, and for twelve months from the shipment date will be free from defects in materials and workmanship. If a meter fails to perform as warranted, Assured Automation will repair it free of charge subject to the terms of this warranty. Assured Automation's liability under this performance warranty is expressly limited to the repair or replacement of the meter upon the customer's returning the complete meter prepaid to:

**Assured Automation**  
263 Cox Street  
Roselle, NJ 07203

This performance guarantee is not applicable to meters which have been damaged by aggressive water conditions, foreign matter in media, misapplication, willful misconduct, negligence, vandalism, act of God, improper installation, frost/freeze damage or using the meter outside of its specific operating parameters (especially temperature and flow ranges). In no event shall Assured Automation be liable for incidental or consequential damages of any kind, including but not limited to loss of profits or revenue, loss of use, cost of capital, cost of substitute equipment, facilities or services, downtime costs, delays and claims of customers of the customer or other third parties.