

# HYDRANT — DRAIN — METER

HYD-10

**H2O**  
TOOLS



# Thank you for choosing The H2O Tools Hydrant Drain Meter, HYD-10

Our manual was written to provide relevant information and to guide you in best practice when using the Hydrant Drain Meter in order for you to gain the most from our product.

Please read this manual thoroughly before using the Hydrant Drain Meter to help avoid any problems and keep it handy when using the tool.

## H2O Tools – Hydrant Drain Meter HYD-10

Hydrant Drain Meter HYD-10 is used to detect draining levels of hydrants in order to prevent them from freezing in winter months. Hydrants in areas where temperatures are consistently below freezing, have a higher tendency to freeze. These hydrants are dry barrel type, where the water should not remain in the barrel after use. Hydrants that have water in the barrels after use need to be pumped out to avoid freezing in the winter. The reasons for water remaining in the barrel could be, a leaking main valve, clogged drain plugs or high-water table. Monitoring these hydrants with the Hydrant Drain Meter HYD-10, allows cities and municipalities to avoid safety issues of non-functioning hydrants due to freezing.

The Hydrant Drain Meter HYD-10 can measure the depth of water in the hydrants barrel if any. The meter comprises of a metal probe fitted to a flexible twisted color-coded cable which is wound on to a portable hand reel containing an electronic switched circuit, visual indicators and batteries.

The Hydrant Drain Meter is simple to use and is portable which allows it to be used easily at many locations. The twisted color-coded cable allows the probe to be easily dropped inside the hydrants port cap and removed without any resistance. The Color-coded wires allow the user to quickly identify the depth without needed to reference the foot measurements.

The Hydrant Drain Meter HYD-10 has a 10 foot measuring depth and comes with pre-installed (2) 9 Volt batteries and a carry bag.

# Contents

Description ..... 4

Components ..... 5

Operation ..... 6

Battery Replacement and cleaning ... 7

Troubleshooting ..... 8

Specifications and accessories ..... 9

Warranty ..... 10

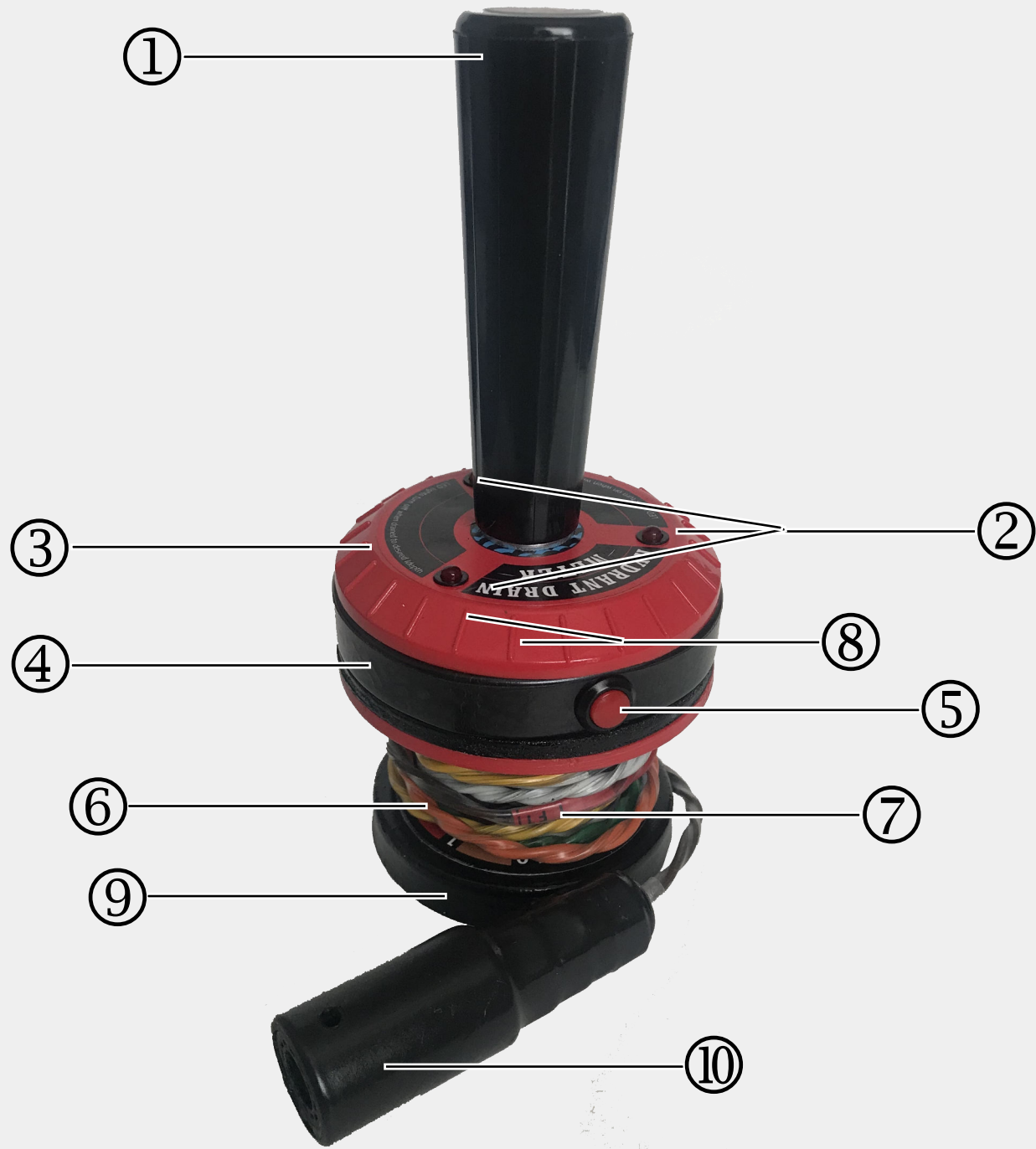
# System

## Description

### Features & Benifits

- Flexible cable for easy winding and unwinding, even in cold temperatures
- Waterproof design
- Color coded wire fast depth measurements
- Strong 80lb base magnet allows it be placed at any angle and location on hydrant
- 3 bright LED signals, that can be view at any angle even in bright sunlight up to 20 ft
- (2) 9 volt batteries power the tool providing maximum usage between battery changes
- Can identify water drainage rate by simple calculation
- Ergonomically designed for ease of use
- Probe can quickly and easily be attached to magnetic while not in use or can hang from handle prior to use
- Magnetic base allows it to be fastened on metal panel of work van or any metal surface for quick and easy access
- Identifies hydrants that are not fully drained and need to be pumped out to prevent freezing in winter months
- On/ Off switch conserves battery life

# Compenents



① Handle

② 3 LED's

③ Top cap

④ Rubber gasket

⑤ On Off button

⑥ Flex measure wire

⑦ Distance ft. marker

⑧ 1/2" measure guage

⑨ Magnet holder

⑩ Sensor Head

# Operation

## features and benefits

The Hydrant Drain Meter is used to measure the standing water level inside a dry barrel hydrant. The Hydrant Drain Meter can be used at any angle and can be easily attached to any hydrant using the magnetic base.

Each Hydrant Drain meter is comprised of a metal probe fitted to a flexible cable wire that is wound on to a hand-held reel with an ergonomical handle. The cable is connected to an electronic circuit, 3 LED (light) signal indicator and (2) 9 volt batteries and an On / Off switch.



The sensor probe incorporates an insulated gap which acts as a switch, the circuit being completed when contact is made with the water.

The cable consists of a non-stretch twisted color-coded wire with copper conductors, also marked in one foot intervals.



The Probe is lowered down the port of a hydrants barrel to be tested. When it makes contact with water, the 3 LED's come on, located at the top of the tool. A reading can then be taken from the measuring cable at the port level to record the depth.

The probe can also be left in the barrel at the desired drain depth. When draining to this depth is complete, the LED's will turn off which indicates that no water is left standing at this level of the barrel.

Drain test after Hydrant use:

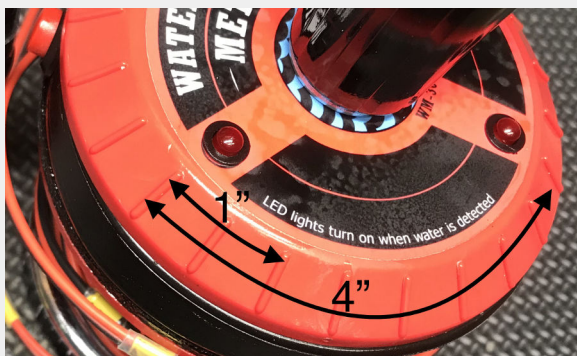
- Turn on unit, by pressing in button 
- Place sensor probe through hydrant port and lower to desired drain depth as required
- Use color code of wire to quickly identify depth to leave sensor
- Once water level is drained at this level, the LED lights turn off
- Unit can be turned off when drain test is complete, by depressing button 

Drain test Before Hydrant use/ Check for Frozen hydrant:

- Turn on unit, by press button 
- Place sensor probe through Hydrant port and lower slowly
- Lights will turn on when water is detected (hydrant was not fully drained)
- Note the Depth by the color-coded wire
- If hydrant frozen - depth can be identified (LED lights will not turn on if frozen)
- Unit can be turned off when drain test is complete, by depressing button 

Measuring the depth to the closest 1/2"

- Use the cap's 1/2" notched lines as a guide
- Place the wire along rubber sides and count notches
- Example: 2 notches equal 1" - 6 notch's equal 3"
- Also, the distance between LED's along rubber sides is 4" (8 notches)

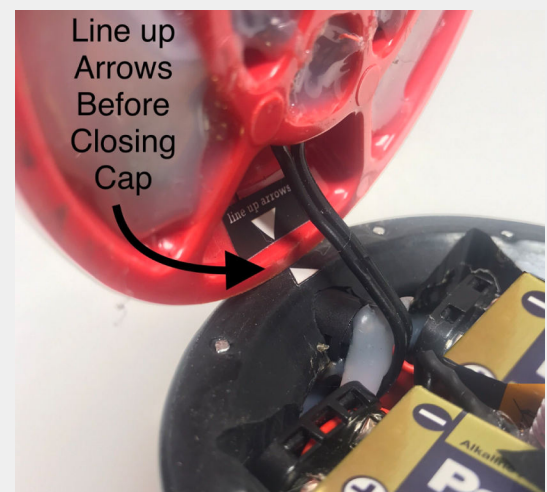




# Battery Replacement & Cleaning

## 9 Volt Battery Replacement

1. To replace the 2 batteries, unscrew the handle ( Figure 1 )
2. Gently lift the top cap from the edge opposite the on/off button ( Figure 2 )
3. Allow the cap to be held open by the wire (Figure 3)
4. Carefully replace the 2 batteries not to jam or pull on any wires
5. Line up arrows on caps before closing (Figure 4)
6. Gently fold down top lid of unit making sure no wires are trapped when cap is lowered
7. Screw handle back on to bolt



## Cleaning the Conductive Contact

The conductive contact inside the probe should be periodically cleaned with a non-abrasive cleaner such as isopropyl alcohol or a phosphate free type cleaner. To clean the conductivity contact, place a small amount of the cleaner on a cotton swab and gently rub the conductivity contacts to remove all foreign material. Repeat the process until all foreign matter has been removed.

## Troubleshooting

No Signal when unit is turned on and probe is in water.

- The battery is discharged. Check the battery.  
(Section 5: Battery Replacement)
- The circuit is malfunctioning. Contact H2O Tools.

No Indication of water.

- The conductive probe contacts are dirty, clean the contact.  
(section 5: Cleaning the conductive contact)
- There is an open connection in the cable. Replace the cable and or the probe.
- The circuit is malfunctioning. Contact H2O Tools.

The signal LED's are intermittent.

- There is an open connection in the cable. Replace the cable or probe.
- There is a loose connection in the circuit or the probe.  
Repair the connection.

The signal LED's are continuously.

- The Conductive contact is dirty (causing bridging).  
Clean the contacts. (section 5: Cleaning the conductive contact)
- There is a short in the cable or probe. Replace the cable or probe.
- The circuit is malfunctioning. Contact H2O Tools.

The signal LED's stay dim after probe is withdrawn from water.

- When using the unit in areas of hard water, the LED's may continue to respond after the probe is withdrawn from the water. When this happens, the LED's will stay on faintly and not on full brightness. Dry out the probe contacts or blow out the electrode.



## Specifications & Accesories

**Weight:**  
1060 gm

**Dimensions:**  
(LxWXH) 208mm X95mm X95mm

**Measuring tape lengths:**  
10 feet

**Measuring Accuracy:**  
1/2"

**Coded wire:**  
Colored every foot and one-foot incremental marks

**Power Supply:**  
2 x 9 Volt Batteries (included)

**Measuring Cacle/Wire:**  
Dual layer PVC twisted copper

**Probe Dimensions:**  
(LxWXH) 28mm x 28mm x 100mm

**Button:**  
On/ Off Button

**Visual Indicators:**  
3 LED's

**Magnetic Base:**  
80 lb Holding Capacity

**Operating Envirnoment:**  
Rated for outdoor use and is Water-proof

**Battery Life:**  
20 hours continuousy detecting  
1 year on, but not detecting

**Operating Tempurature:**  
-18°C to 55°C (0°F to 130°F)  
[can be used periodically at lower temperatures, if stored in warmer environment when not in use]

**Response time:**  
<100 milliseconds

### Accesories:

Carry Bag



# Warranty

## Warranty

For a period of one (1) year from date of first sale, product is warranted to be free from defects in materials and workmanship. H2O Tools agrees to repair or replace, at H2O Tools option, the portion proving defective, or at our option to refund the purchase price thereof. H2O Tools will have no warranty obligation if the product is subjected to abnormal operating conditions, accident, abuse, misuse, unauthorized modification, alteration, repair, or replacement of wear parts. User assumes all other risk, if any, including the risk of injury, loss, or damage, direct or consequential, arising out of the use, misuse, or inability to use this product. User agrees to use, maintain and install product in accordance with recommendations and instructions. User is responsible for transportation charges connected to the repair or replacement of product under this warranty

## Equipment Return Policy

Equipment Return Policy A Return Material Authorization number (RMA #) is required prior to return of any equipment to our facilities, please email us. An RMA # will be issued upon receipt of your request to return equipment, which should include reasons for the return. Your return shipment to us must have this RMA # clearly marked on the outside of the package. Proof of date of purchase is required for processing of all warranty requests. This policy applies to both equipment sales and repair orders.

FOR A RETURN MATERIAL AUTHORIZATION, PLEASE EMAIL US  
at [H2OToolsCanada@gmail.com](mailto:H2OToolsCanada@gmail.com).

Model Number: \_\_\_\_\_

Serial Number: \_\_\_\_\_

Date of Purchase: \_\_\_\_\_

Serial Number

The serial number for each tool is located inside cap near the batteries.  
(see Figure 3 , Page 8)

## Equipment Decontamination

Prior to return, all equipment must be thoroughly cleaned and decontaminated. Please make note on RMA form, the use of equipment, contaminants equipment was exposed to, and decontamination solutions/methods used. H2O Tools reserves the right to refuse any equipment not properly decontaminated. H2O Tools may also choose to decontaminate the equipment for a fee, which will be applied to the repair order invoice.

# HYDRANT — DRAIN — METER

**HYD-10**

**H2O**  
TOOLS



H2O Tools - [H2Otools.ca](http://H2Otools.ca) - Canada