# HYDRO-GUARD<sup>®</sup>

a **MUELLER** brand

# Bacteriological Sampling Station (BSS)

# **BSS-01: 1" Blow-Off with Sampling Port and Freeze Protection**

Example: BSS0136CHADGCSDNL00

# **BSS-02: 2" Blow-Off with Sampling Port and Freeze Protection**

Example: BSS0260MUDG2TCVDNL00

# WARNING:

- Each person involved in the assembly, installation and/or maintenance of the Hydro-Guard Automatic Flushing Device must read this manual carefully and follow all instructions prior to performing any installation or maintenance procedures involving the Unit.
- Verify the drainage path prior to installation to ensure that pedestrian and vehicular hazards will not be created by the installation and use of the Hydro-Guard Automatic Flushing Device (In areas in which freezing may occur, special attention should be given to this procedure).
- 3. Never assemble, disassemble, or perform Hydro-Guard maintenance unless the influent supply valve has been closed, verified and secured, and internal piping pressure has been relieved.
- Always use all necessary safety equipment and follow all recommended procedures when installing, operating and maintaining the Hydro-Guard Automatic Flushing Device.
- Replace worn or defective parts with OEM parts and check your battery twice a year.
- 6. Operate the Hydro-Guard Automatic Flushing Device only when fully installed and correctly assembled.
- 7. It is recommended that a pressure reducing valve be installed in front of the Hydro-Guard where pressure could exceed 120psi.

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The recommended optimal operating pressure for a Hydro-Guard® Automatic Flushing System is between 20psi and 120psi. In the event pressure may exceed 120psi it is recommended that a Pressure Regulating Valve be installed ahead of the Hydro-Guard flushing system.

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## **OPERATING INSTRUCTIONS MANUAL**

| PAGE |
|------|
| 2    |
| 3    |
| 3-4  |
| 5-6  |
| 7    |
|      |

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# HYDRO-GUARD® BBS-01/02 Bacteriological Sampling Stations

**General Information / Installation** 

## GENERAL

## Overview

The Hydro-Guard<sup>®</sup> BSS-01 and BSS-02 bacteriological sample station are designed to be permanently installed on water distribution lines. The primary purpose of this equipment is to provide a method for obtaining water quality samples from the potable water distribution system

## INSTALLATION

## **Before Installation**

Prior to the installation, the drainage patterns for the intended installation location shall be viewed to ensure that any discharged water will not create hazardous conditions for pedestrian or vehicular traffic. The selected location's drainage pattern shall also permit discharged water to flow away from the bacteriological sampling station or be absorbed by the surrounding soil as not to create pooling over the station.

**1.** Remove rock or other debris that might create uneven pressure on the unit from the bottom of the hole. Compact the bottom of the hole to minimize settling after installation. Add an appropriately sized layer of #57 stone or equal suitable materials which will allow for drainage of discharged water from the sample station when in operation.

2. Backfill the hole around the bacteriological sampling station with your selection of appropriate materials or combination of materials including #57 stone and clean fill. Backfilling shall be accomplished in 6" lifts. Use a level to ensure the unit remains level during this process.

**3.** Using extreme care, backfill the interior of the bacteriological sampling station with your selection of appropriate materials or combination of materials including for the purpose of identifying the bacteriological content and quality of the water at the sample point.

The BSS-01 and BSS-02 bacteriological sample stations are comprised of the self-contained sampling station. The sampling station incorporates a high-flow blow off; a ½" stainless steel or copper sample point; freeze protection; and a selflocking, counter-sunk, UVprotected thermoplastic or stainless steel enclosure allowing ease of use access to the internal components and bracketry when the top is removed. The base of the enclosure is self supportive and does not require a concrete pad to be poured for support.



#57 stone and clean fill. Backfilling process is conducted in such a manner to prevent damage to the internal piping of the sample station or its various components.

**4.** A suitably sized area around the bacteriological sampling station shall

be sodded to prevent erosion, or to achieve a similar end.

**5.** Disinfect the bacteriological sampling station in accordance with AWWA standards.

# HYDRO-GUARD<sup>®</sup> BBS-01/02 Bacteriological Sampling Stations

**Operation / Components** 

## **OPERATION**

**1.** Open curbstop (1/4 turn) to charge the water supply lines of the sample station.

**2.** Open the blow-off ball valve and the ½" sample ball valve. Allow water to flow for a minimum of 3-5 minutes.

**3.** Chemical or flame treat the sample tip. If flame treating, DO NOT flame the ball valves. ONLY frame the sample tip. Flame for no more than 20 seconds.

**4.** At the conclusion of the sample collection process, close the curbstop (1/4 turn).

**5.** The BSS-01 and BSS-02 can be equipped with an optimal freeze protection system. Reference pg. 4 for freeze protection options.

## **COMPONENTS**

The BBS-01 is contained in a 10" x 10" lockable stainless steel or HDPE cabinet. The BBS-02 is contained in a 12" x 12" lockable stainless steel or HDPE cabinet (**A**.).



The internal piping and valves (**B**.) are constructed of no lead brass or stainless steel.



The blow off component of the sample station is capable of directing the water discharged through a 90° elbow and is equipped with a discharge diffuser that extends below the sample collection point to further prevent contamination of the sample point.

(C.) A minimum 12" air gap is maintained between the discharge point. All brackets and fasteners used in the construction of the enclosure are constructed from stainless steel, anodized aluminum or marine grade polyethylene.

The enclosures are capable of being marked with the utility's contact information, site control number, and/or site specific information (minimum of three lines of engraved print per name plate –shown circled on picture **A**.).

## **COMPONENTS (Cont.)**

### Housing

The housing features a below-grade base with a minimum burv depth of 9" (**D.**). The configuration provides stability and anti-buoyancy capabilities. The base is constructed of either stainless steel or HDPE composite. The above-grade section of the enclosure is lockable by way of a unique locking pattern and key, and/or hasp lock. The locking mechanism is located a minimum of 19" above the engraved ground bury line stenciled on the below grade base of the exterior of the protective housing.





## Winterization (optional)

Both the BBS-01 and BSS-02 can be protected against frost damage by way of several freeze protection options.

**1. VAC:** A vacuum line is utilized to allow for the evacuation of water from the service piping of the sample station - A hand vacuum pump is required (sold separately).

**2. Curbstop and drain (CSD):** The CSD freeze protection option includes an integrated curbstop assembly with a one-way check drain. The CSD allows water in the BSS-01 or BSS-02 Sample Station's service line to drain, thus reducing the risk of freeze damage.

**RECOMMENDATION:** To reduce the risk of freeze damage during winter operation, Mueller recommends closing the curb-stop to cease water flow to the internal piping of the sample station. Once closed, the ball valve of the blow-off can be opened to expedite the device's ability to drain the internal piping of trapped water, thus reducing the potential for freeze damage to the piping or valves.

**3. TCV:** The TCV freeze protection option includes the use of a mechanical thermal control valve that is activated when the water temperature is detected at 40F or below. When this occurs, the valve opens and allows water to flow in order to reduce the risk of freezing.

#### Sampling Point

The sample point assembly on both the BSS-01 and BSS-02 consists of a ¼" no lead brass or stainless steel ball valve and 3/8" copper or stainless steel tubing. A sanitary cap protects the sample point from exterior contamination (**E**.). The sample point is located a minimum of 12" from the exterior ground line molded into, or marked on, the protective enclosure. The sample point has been located outside of the flow pattern of the discharge from the blow-off valve.

Components

#### **Blow-Off Flush Point**

The bacteriological sampling station features a 1" blow-off flush point on the BBS01 and a 2" blow-off flush point on the BBS02. Both 1" and 2" are constructed of stainless steel, no lead or brass and feature a premium grade ball valve.

The blow-off flush point discharges water at a velocity capable of moving potentially stagnant water from the municipal water distribution lines and by drawing treated water into the piping of the bacteriological sampling station (**F.**).



# HYDRO-GUARD<sup>®</sup> BBS-01/02 Bacteriological Sampling Stations

**BSS-01 Parts Information** 



# HYDRO-GUARD<sup>®</sup> BBS-01/02 Bacteriological Sampling Stations

**BSS-02** Parts Information



# HYDRO-GUARD® BBS-01/02 Bacteriological Sampling Stations

Notes

#### LIMITED WARRANTY

This Hydro-Guard"" Automatic Flushing Device Is warranted for one year from the date of delivery. Mueller Co. will repair or replace any defective part or component as long as the Unit is installed and operated In accordance with the procedures described within this manual. Damage or failure caused by the Improper installation, assembly, disassembly, maintenance or operation of the Hydro-Guard Automatic Flushing Device Is not covered by the terms of this warranty. Call Mueller Co. at 800.423.1323 during regular business hours, or contact Hydro-Guard at www.HydroGuard.com for details on warranty service.

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