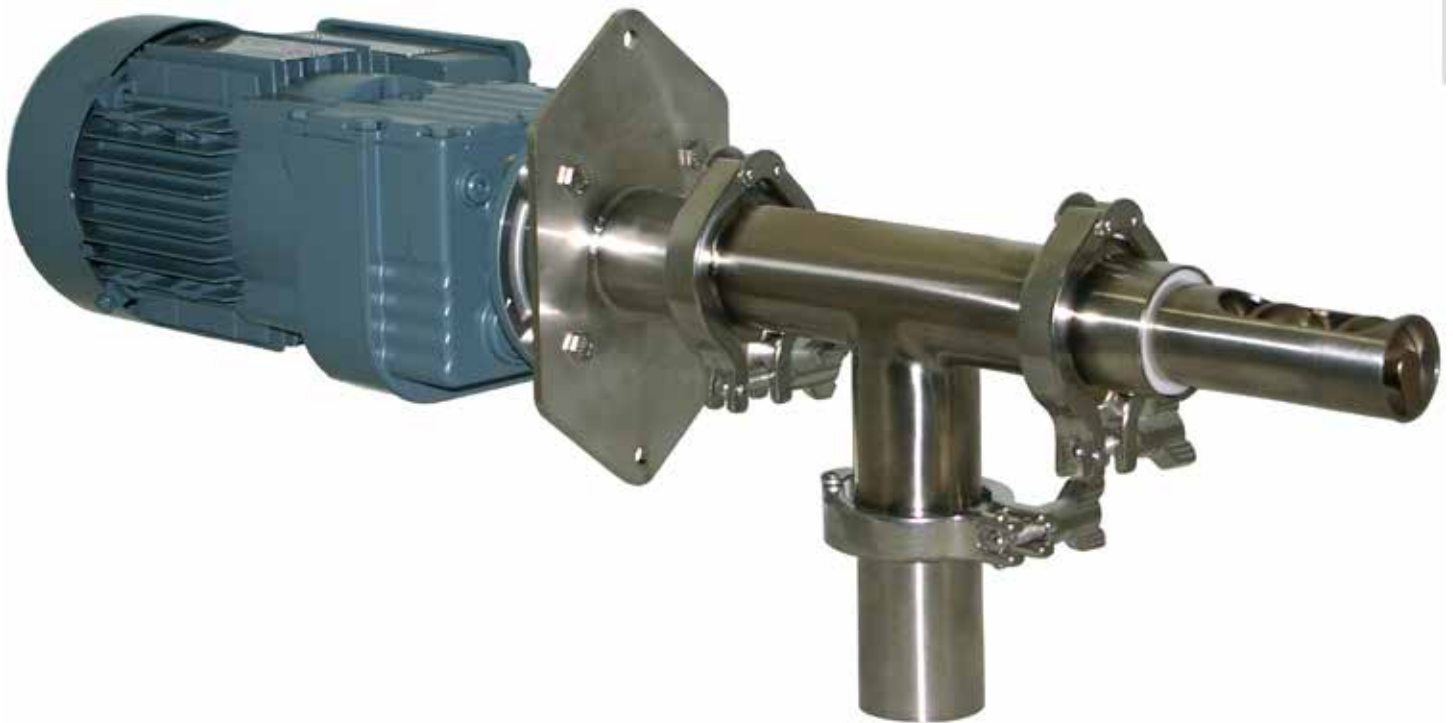


Original Instructions

Installation, Operation & Maintenance Manual

Sentry B1 Sampler Point Samplers

S-SP-IOM-00282-5 11-17



COMPANY WITH
QUALITY SYSTEM
CERTIFIED BY DNV GL
= ISO 9001 =

 **SENTRY**



Do not install, maintain, or operate this equipment without reading, understanding, and following the appropriate Sentry Equipment Corp instructions. Otherwise, injury, damage, or both may result.

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Note

The information contained in this document is subject to change without notice.

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Safety Information

Please read the entire manual before attempting to unpack, set up, or operate this product. Pay careful attention to all Warnings, Cautions, and Notes. Failure to do so could result in serious personal injury and/or equipment damage.

Use of Hazard Information

If multiple hazards exist, the signal word corresponding to the greatest hazard shall be used.

Definitions

DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

CAUTION, used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to personal injury.

NOTE

Information that requires special emphasis.

TIP

Alternate techniques or clarifying information.

SHALL: This word is understood to be mandatory.

SHOULD: This word is understood to be advisory.

General Safety Precautions

Product Selection, Installation, and Use

WARNING

Improper selection, installation, or use can cause personal injury or property damage. It is solely the responsibility of users, through their own analysis and testing, to select products suitable for their specific application requirements, ensure they are properly maintained, and limit their use to their intended purpose.

Follow proper local, state, and federal regulations for proper installation and operational requirements.

Always use caution and common sense when working with any chemical. Read the product label and Material Safety Data Sheets (MSDS) carefully and follow the instructions exactly.

Potential Equipment Hazards

WARNING

Hot surfaces! This equipment may have very hot surfaces. If an operator contacts a hot surface, injury may occur. Use protective clothing to prevent injury. If other equipment comes in contact with a hot surface, damage to the equipment may occur. Ensure the area around this equipment is kept clear to prevent damage from occurring.

High pressures! This equipment may contain fluids at very high pressures. Prior to installing, removing or maintaining this equipment, ensure that the equipment is isolated from all connecting piping, the equipment is depressurized, the contents have been drained, and the equipment is cool.

Moving parts! This equipment may contain moving parts. All drive guards and doors must be secured in place when this machine is being operated.

General Description

The Sentry® B1 automatic point sampler samples dry material from gravity chutes and hoppers. A sample is taken when the controller initiates a purge cycle timer to the motor. After a fixed delay, the controller reverses the auger and the sample moves through the tube/ auger assembly to the discharge port. The sample probe (with a 2- through 10-inch extension) is always in the product stream.

⚠ WARNING

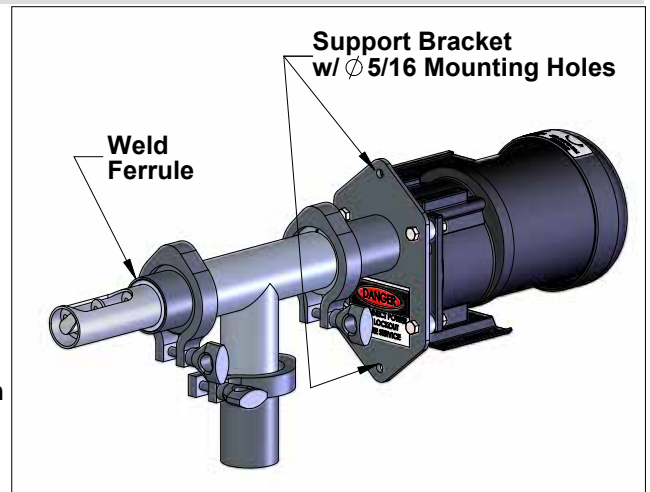
Read these instructions **completely** before proceeding to assemble, install or operate this machine. This machine should be installed, operated and serviced by qualified individuals. All drive guards and doors must be secured in place when this machine is being operated. Follow proper local, state and federal regulations for proper installation and operational requirements..

Installation

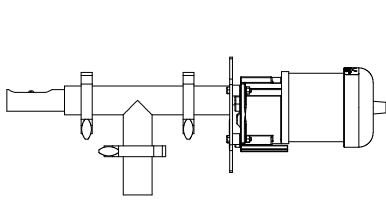
⚠ CAUTION

Sampler must be supported in two planes to prevent bending of the sample tube and to prevent personal and property damage.

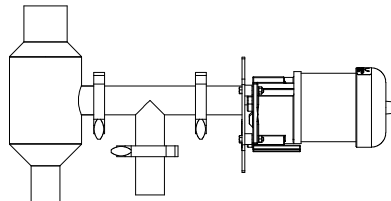
1. Choose a location for the sampler. Product should be evenly dispersed in the material line. Make sure that the mounting location is six to eight feet beyond all elbows or line irregularities.
2. The sampler includes a mounting ferrule connected to the sampler with a tri-clamp and gasket. This mounting ferrule must be removed from the sampler and welded to the line being sampled.
3. If the sampler is premounted at the factory:
 - a. Remove a section of the conveying line equal to the length of pipe in which the sampler is mounted.
 - b. Insert the sample tube facing into the product flow.
 - c. Clamp or bolt sampler in position. See drawing included with this manual for additional details.
4. If any side of your chute or line is less than 5 inches, use a transition section to enlarge the line at the point of installation. The shortest Sentry B1 sample tube is 4 inches.
5. If the sampler comes with mounting adapters:
 - a. Cut a two-inch diameter hole in the conveying line to accommodate the sample tube.
 - b. Mount adapter wraps on the conveying line, making sure the hole in the adapter lines up with the hole in the conveying line. Then secure with the bolts.
 - c. Mount and fasten the sampler to mounting adapters with included hardware.
6. If the sampler is to be mounted to a chute that is 14 gauge or lighter, reinforce the chute with heavier gauge metal before bolting the sampler directly to the chute.
7. Mount the sample bottle assembly. It may be mounted in any convenient location below the sampler. Best results are obtained when, in the sampling position, the discharge of the sampler is in direct line with the intake of the sample bottle.



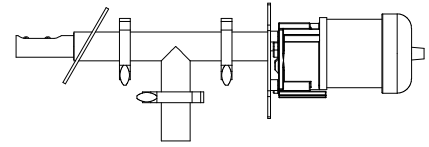
8. Connect a flexible hose from the sample discharge to the sample collection container. In certain applications, rigid metal tubing can be used following a short length of hose attached to the discharge.
9. Connect the motor leads to the controller or PLC per the motor wiring diagram supplied with this IOM.



VERTICAL CONVEYING LINE



ANGULAR CONVEYING LINE

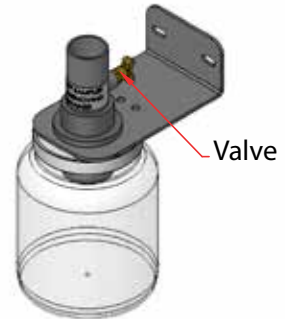


HORIZONTAL CONVEYING LINE

Operation

Sample Bottle Assembly

The valve on the sample bottle assembly is used to release pressure in the container. The valve may be opened a one quarter turn to allow pressure to bleed slowly between sampling cycles. The valve must be closed when sampling on a vacuum line.



⚠ WARNING

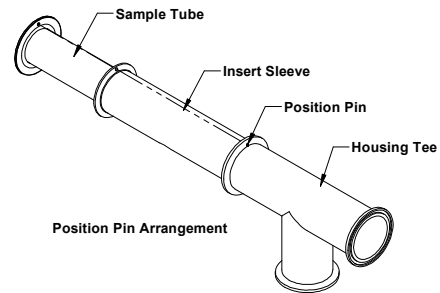
Open the valve on the sample bottle assembly to release the container pressure before removing the container. **DO NOT** open the valve by more than a quarter turn during sampling. Fine material may escape, biasing the sample and possibly causing personal injury.

Maintenance

The Sentry B-1 sampler must be removed from its mount and disassembled for cleaning. Refer to the following sequence and the drawings for disassembly:

1. Remove the hose adapter
2. Remove the motor mount clamps
3. Slide the motor mount, motor, motor coupler and spider away from the sampler
4. Remove the adapter mount clamp
5. Slide the tee housing away from the adapter mount
6. Remove the internal parts from the tee housing
7. Remove the quick-release pin
8. Slide off the coupler from the auger shaft
9. Slide off the guide bushing from the auger shaft
10. Slide out the auger from the sample tube
11. Slide the insert sleeve off the sample tube
12. Use site-approved cleaning solutions, appropriate for use on 300 series stainless steel, acetal/PTFE and rubber, to clean the sampler.

To reassemble the sampler, reverse the order of the steps. When assembling the insert sleeve onto the sample tube, ensure that the



position pin on the housing tee lines up with the corresponding holes in the insert sleeve and sample tube. See Assembly figure. When inserting the tube into the tee housing, ensure that the discharge hole lines up with the discharge of the tee housing.

Troubleshooting

The following information is a synopsis of the problems you may encounter prior to troubleshooting your equipment. Divide the unit into sections and try solving the problem before you continue on.

Potential Problems

Electrical

- Controller
- Connections
- Circuit breaker
- Motor

Mechanical

- Alignment (binding of tube and augur)
- Motor coupler
- Loose set screws

⚠ WARNING

Disconnect main power to controller before attempting any adjustments or disassembly.

Pinch Hazard! Keep body parts away from discharge port while discharge ferrule is removed.

Troubleshooting Sequence

No sample:

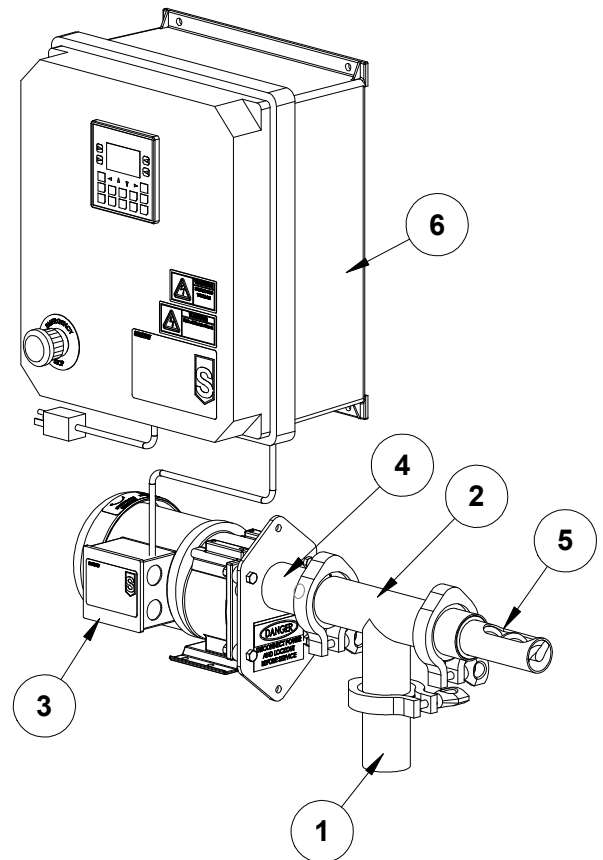
1. Discharge clear?
2. Component alignment
3. Motor
4. Coupling
5. Binding
6. Timer settings (see controller manual)

Excess sample:

5. Leaks by the augur
6. Timer settings (see controller manual)

Sample not representative:

6. Timer settings (see controller manual)
5. Leaks by the augur
7. Sampler position



Standard Warranty

Sentry Equipment Corp (“Seller”) warrants products manufactured by it and supplied hereunder (“Products”) to be free from defects in workmanship and, to the extent materials are selected by Seller, to be free from defects in materials, in each case for a period as defined in the table below:

| Product Line | Product Category | Warranty Period |
|------------------|---|---|
| Sentry® | 1. Automatic Sampling 2. Corrosion Monitoring 3. Manual Sampling 4. Sample Conditioning 5. Sampling & Analysis Systems 6. Replacement Parts (without expiration dates) | Eighteen months from date of shipment or twelve months from startup, whichever occurs first |
| Waters Equipment | 1. Sampling & Analysis Systems 2. Replacement Parts (without expiration dates) | Twelve months from date of shipment |

To view the full warranty, go to www.sentry-equip.com/warranty.

Customer Support

With proven sampling expertise since 1924, Sentry products and services provide business operations the critical insights to optimize process control and product quality. We deliver true representative sampling and analysis techniques to customers around the globe, empowering them to accurately monitor and measure processes for improved production efficiency, output, and safety. Standing behind our commitments, we are determined to tackle any application, anywhere.

We know that running an efficient operation isn’t easy. It requires thorough, careful analysis of controlled, real-time data achieved through reliable, accurate, and repeatable process monitoring, and measuring. By effectively conditioning, sampling, and measuring gas, liquid, slurry, powder, solids, steam, or water within their production environments, our customers obtain the critical insights they need to control and optimize their processes.

Yet, controlling your processes also means reliable customer support throughout the life cycle of your equipment.

- Customer Service—General information, warranty claims, order management.
- Installation Service—For systems that require specialized expertise upon installation.
- Technical Support—Troubleshooting, training, and technical manuals.
- Field Service & Retrofits—When a problem needs immediate attention.
- Replacements Parts & Consumables—Order your replacement parts and consumables.
- Sentry ProShield Services – select from four ProShield Guardian service plans providing different levels of support to protect your large system investments with regularly scheduled maintenance.

To learn more, go to www.sentry-equip.com/support.

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Serving customers
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