

Original Instructions

Installation, Operation & Maintenance Manual

Sentry SC Sample Cutter Automatic Sampling Accessories

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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.

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.

CAUTION

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

WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious 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® SC Sample Cutter is designed to accompany various Sentry samplers for the purpose of reducing the sample size obtained by the primary sampler. In special cases it can be used as a primary sampler. A true representative sample is obtained through the crosscut method.

Sample quantity can be changed by adjustments in the pendulum arc or pelican opening.

There is a glossary section in the back of the manual that is designed to assist you in trouble shooting. The glossary describes functions of individual parts. If the part is malfunctioning the glossary will describe the symptoms and how to disassemble.

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

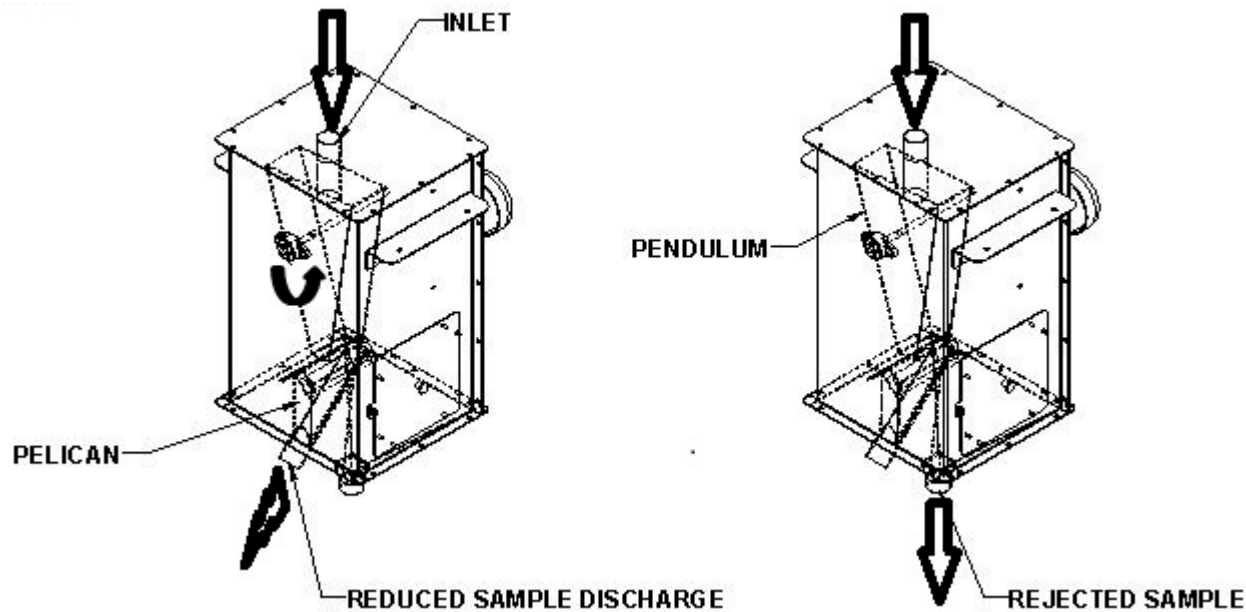
1. Choose a location for the Sentry SC sampler (directly below the primary sampler) to allow a direct, continuous flow of material. The sampler should be mounted vertically only.
2. Choose a location for your sampler where it can be mounted directly to a wall, beam, or sturdy stand, with the aid of sampler mounts. Hold the sampler in place, then mark and drill the bolt holes. Secure with 5/16 inch nuts and bolts.

NOTE

Mount the Sentry SC Sample Cutter so as to provide easy access for adjusting the pendulum and/or the pelican aperture.

3. Measure the distance from the discharge of the primary sampler to the intake of the Sentry SC Sample Cutter, and from the reject discharge to the material line. (See figure 1.)

Figure 1.



4. Cut a length of plastic or metal tubing and connect lines to the intake and from the discharge of the sampler. The ID of the tubing depends upon the diameter of the sampler discharge from the primary sampler.

NOTE

Leave enough slack in the line to enable the primary sampler to go back and forth without any resistance. Never allow the discharge line to form a sharp bend or kink that would impede sample flow.

5. Establish a collection point that is convenient and as close to the sampler as possible. This collection point should be directly below the Sentry SC Sample Cutter discharge, whenever possible.
6. Mount the controller in a vibration-free location and have a qualified electrician wire the controller to the solenoid and electrical supply. If the controller is to be mounted near the sampler, then the controller must meet the National Electric Code (NEC) for the area. Sentry Equipment supplies electrical components to meet the standard specified by the customer.
7. Cut a piece of 1-1/2 inch ID or 2 inch ID tubing and run a line from the sampler discharge to the sample collection point.

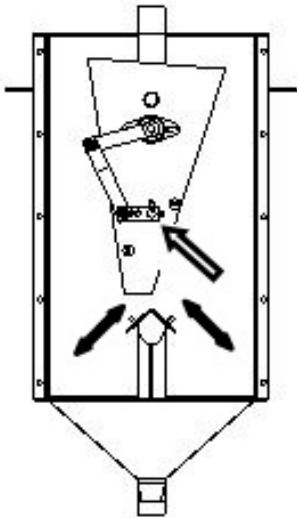
Operation

The Sentry SC Sample Cutter should operate continuously when the primary sampler is on. The sampler controller may be interlocked with the primary controller to function this way.

Adjustments

1. The volume of the sample taken in the secondary phase is determined by the length of pendulum travel and the pelican aperture.
2. The pendulum travel can be increased or decreased by repositioning the shoulder bolt on the motor drive arm. Moving the arm in towards the shaft decreases the stroke and increases the volume of sample. Moving it away from the shaft increases the travel and decreases the volume of sample. The pelican aperture can be increased or decreased by opening or closing the pelican lips.
3. The following is a sample ratio chart of the pelican opening versus the pendulum swing

Figure 2.



RATIO CHART

Pelican Opening	TRAVEL		
	Farthest 54°	Middle 40°	Closest 26½°
1/4 inch	36:1	26½:1	17½:1
1/2 inch	21½:1	16:1	10½:1
3/4 inch	15½:1	11½:1	7½:1
1 inch	11:1	8:1	5½:1
1 1/4 inch	8½:1	6:1	4:1

Maintenance

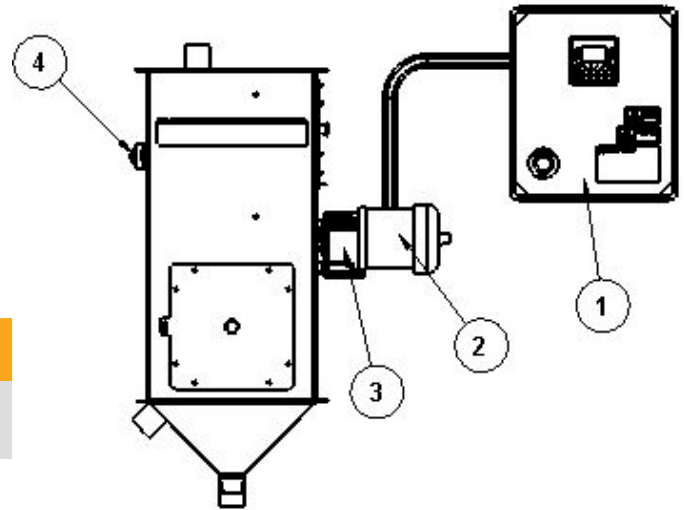
Establish a regular schedule for checking the gear reducer for adequate oil level. Remove the oil level indicator plug on the side of the reducer. If the oil does not run out, fill until it does. Use 600W oil or equivalent. Lubricate bearing as required.

Troubleshooting

This section is designed to further help you locate the portion of your sampler which is malfunctioning. If disassembly was required, reassemble the sampler and check to see if everything is operational.

Troubleshooting Sequence

1. Controller
2. Motor
3. Gearbox
4. Bearing



⚠ WARNING

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

1. Check main power supply. If the sampler does not come on, check the circuit breaker.
2. If the sampler does not function, check the terminal block on the inside of the controller for loose or improper connections.
3. If the controller is operating but the pendulum does not swing, first check the gear motor for malfunctions, and then check for loose screws or keyways in the drive mechanism.
4. Remove inspection panels and check whether the sampler is operational or jammed. Check for loose screws and bolts.

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.

Serving customers
in more than 50 countries
across six continents worldwide.



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