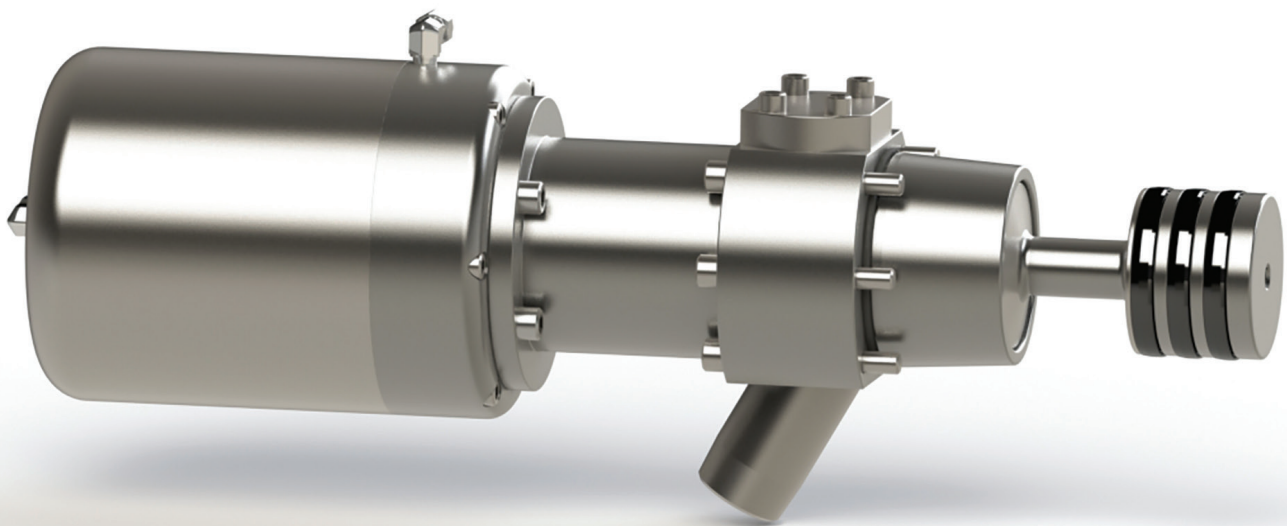


Original Instructions

# Installation, Operation & Maintenance Manual

## ISOLOK SAG Sampler Point Samplers

S-AS-IOM-00477-2 10-22



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





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.

# Table of Contents

<b>Safety Information</b> .....	<b>4</b>
<b>General Safety Precautions</b> .....	<b>5</b>
<b>General Description</b> .....	<b>6</b>
<b>Installation</b> .....	<b>6</b>
Selection of Installation Location .....	6
Line Adapter Mounting (if provided) .....	7
Sampler Mounting .....	7
Controller (if provided) .....	7
Service Connections .....	7
<b>Operation</b> .....	<b>8</b>
Sample Containers .....	8
Controller (if provided) .....	8
Venting .....	11
Sample Collection Containers .....	11
<b>Maintenance</b> .....	<b>11</b>
Sampler Cleaning .....	11
Sampler Removal .....	12
Plunger Seal Disassembly .....	12
Plunger Seal Reassembly .....	13
Piston Seal Disassembly .....	13
<b>Troubleshooting</b> .....	<b>15</b>
<b>Standard Warranty</b> .....	<b>16</b>
<b>Customer Support</b> .....	<b>16</b>

# 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.

### WARNING

Equipment rated TX. Equipment maximum surface temperature depends on operating conditions. Ensure maximum surface temperature shall stay below ignition temperature of dust or gas atmosphere where it is installed based on process conditions. Failure to comply could result in an explosion, causing serious injury or death to personnel and damage to equipment.

If the sampler is mounted directly to a non-electrically conductive surface, sampler shall be bonded to a grounding electrode. Failure to comply could result in sparking, which could lead to an explosion, causing harm to personnel and equipment.

If the sample container is removed from the sampler, do not insert any body part or other item into the sample discharge port. Crushing will occur.

### NOTICE

To ensure proper sampler operation, be sure the sampler is installed in a pipe large enough for the sampler plunger to extend without impacting the pipe. Failure to comply will result in equipment damage and poor sample quality.

### CAUTION

Sampler may require a two-person lift. Please refer to the General Arrangement drawing for weight and dimensional information.

# General Description

## ⚠ 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.

The Sentry® ISOLOK® SAG automatic point sampler is designed to obtain samples of liquid and slurry flowing in a process stream, into which extends a plunger with an annulus for sampling. The SAG sampler has been configured specifically for use in sampling the process media at the process conditions provided by the user at time of manufacture.

Each sampler cycle consists of a plunger extension and a plunger retraction. During plunger extension, the volume of the annulus is filled with a sample of the process stream. The plunger is then retracted into the body of the sampler, thereby capturing a volume of sample. This sample is then deposited into a sample collection container.

The ISOLOK SAG automatic fixed volume sampler is pneumatically operated. Pressurized air (or other gas) is used to provide the force to extend and retract the plunger. When in the retracted position, air or other inert gas may be used to assist the displacement of the sample material from the plunger annulus.

The ATEX Temperature Class rating is dependent upon process fluid temperature. Reference the following chart:

TX	maximum temperature
T2	572°F (300°C)
T3	392°F (200°C)
T4	275°F (135°C)
T5	212°F (100°C)
T6	185°F (85°C)

### ATEX Ratings:

Ex h IIB T6...T2 Gb  
Ex h IIIC T83°C...T300°C Db  
-20°C ≤ Ta ≤ +65°C

## ↻ NOTE

The working pressure of the air cylinder is 120 psig with a max cycle rate of 6 cycles/min on a continuous duty cycle. Additionally, actuating gas needs to be a non-combustible neutral gas and the working temperature must be between -4°F to 149°F (-20°C to 65°C).

## ↻ NOTE

Figures in this manual may differ from actual purchased equipment. Please refer to the drawings in the appendices of this document.

# Installation

## Selection of Installation Location

Select a location to install the sampler where the material in the process stream is well mixed. Location of the sampler and controller is very important for accurate sampling results. They should be as close together as practical, within sight of each other, and protected from weather, traffic damage and normal work activities in the area.

When selecting a sampler location, ensure the sample collection container will clear vertical lines (or other obstructions) when mounted onto the sampler. The sampler can be used on a pipe or tank running horizontally, vertically or at an angle, but the preferred position is with the axis of the sampler horizontal. However, the sampler body axis can be below horizontal depending on the material being sampled and its flow characteristics.

## Line Adapter Mounting (if provided)

1. Reference the accompanying drawing to determine which line adapter had been provided.
  - a. SADDLE SHAPE line adapters are machine cut to fit the OD of sampler diameter process pipes.
  - b. PLUG SHAPE line adapters are installed through the wall of larger diameter pipes or sides of tanks.
2. After selecting a location and verifying the sampler orientation, cut a hole in the process line (or tank) according to the shape of the line adapter. Exact size to cut is shown on the accompanying drawings
3. Protect bore and face of adapter from weld spatter.
4. Tack weld adapter in position. Again, check orientation and position before continuing to weld.

### NOTICE

Use industry code procedures to protect adapter from distortion. Major distortion cannot be corrected and will prevent installation of sampler.

## Sampler Mounting

### ⚠ CAUTION

Sampler may require a two-person lift. Please refer to the General Arrangement drawing for weight and dimensional information.

1. ISOLOK samplers are designed to mount to a line adapter that is welded or otherwise attached to a process line.
2. PLUNGER CLEARANCE. Ensure that adequate clear space exists ahead of nose of sampler to allow for full plunger movement.
3. Check orientation of sampler and line mounting adapter, and ensure that axis of sampler is mounted as shown on the accompanying general arrangement drawing.

## Controller (if provided)

1. Make connections as shown on the accompanying drawings.

## Service Connections

2. Make air line connections as shown on the accompanying drawings.
3. For most installations, the sampler requires compressed air at normal flow capacity of 2 standard cubic feet per minute (SCFM) at normal regulated pressures between 30 psig (2.1 barg) and 120 psi (8.3 barg), depending on process pressure.

4. At 80 psig (5.5 barg), air consumption is approximately 0.379 SCF per sampler cycle for 4-inch cylinders and 0.593 SCF per sampler cycle for 5-inch cylinders.
5. AIR LINES. Connect two air outlet ports on controller to sampler air fittings P5 on head and P6 on rear of cylinder using 1/4 in. OD air lines. Use no more line than is necessary.
6. An adjustable restrictor (flow-control valve) should be used to control exhaust air flow from the air cylinder. Consult Sentry Equipment Corp if not furnished as part of the operating controller system.
7. Connect lines so that sampler dwells in retracted position while in between cycles or when off.
8. Check for proper connection of air lines by extending sampler plunger using the "HAND" or grab option of the controller.
9. AIR EJECT (Optional). If an "air eject" function has been selected, the top port (P2) of the sampler body can be equipped with a compression style fitting. Connect this port to source of eject air (or other gas) at control using 1/4 in OD tubing. Samplers equipped with an air eject function MUST have suitable vent in bottle adapter to allow for exhaust of eject air. DO NOT CLOSE VENT PORT. Ensure any potentially hazardous fumes or product are conducted to a safe area.

## Operation

### DANGER

Dangerous gas! The gases being emitted from the bottle vent may be hazardous and toxic upon exposure. The vent line should be directed to a charcoal canister, flare or other sub atmospheric region for collection and treatment of sample vapors.

## Sample Containers

1. Sample collection containers always should be clean and completely dry before being used. Containers (bottles) of polypropylene most often are utilized.
2. SCREW MOUNT CONTAINERS. Standard sampler body is provided with a threaded discharge port. Adapters to fit threaded sample collection bottles are available from Sentry Equipment Corp. These adapters have a suitable threaded port and mount onto discharge port.
3. SEPARATE CONTAINERS. Suitable piping connections for metal or plastic components can be arranged to conduct sample portions to a separate container. Whenever such piping is installed, avoid long runs with multiple fittings, joints or other areas where solids or crystals could build up and block flow.

### NOTE

**IMPORTANT.** Select sample container size that will not be filled completely even during longest sampling times. Use care when setting a cycle rate that may nearly fill a container.

### WARNING

Always ensure control is OFF before mounting or exchanging sample containers.



## Controller (if provided)

ISOLOK samplers require an operating controller which determines the time interval between cycles, speed of the plunger and dwell in product stream. Filtered, compressed air or gas is provided from controller to sampler air cylinder for operation.

Operation can be manual-pneumatic, electric-pneumatic, all-pneumatic, etc. A few are described:

- Manual-Pneumatic Control includes a filter, regulator, gauge, and lever operated four-way air valve with speed controls and mounting bracket. The lever is depressed to extend the plunger and held approximately two seconds. The lever release retracts the plunger. A stainless steel enclosure with locking provision is optional.
- Electric-Pneumatic Control includes an electric power supply for the timer and solenoid operation with separate pneumatics. Time-based units include EXTEND-RETRACT adjustable plug-in timers to control time intervals and optional special time delay functions. Flow proportional or remote contact controls operate from the user's flow meter or pulse generating device and usually include an adjustable counter. NEMA 4 or NEMA 7 enclosure models are available.
- All-Pneumatic Control is suitable for explosion hazard-rated areas where compressed air is available for sampler operation or for areas where electric power supply is not available.

## General Specifications

In most cases, an automatic electric sampler cycle controller requires an 115VAC power supply. IN ALL CASES controls require a suitable ground and means to disconnect the electrical supply.

Where connecting a contact closure or pulse input from the flow meter to the controller, using shielded cable is recommended if the run is more than 10 feet or if the conduit contains leads of higher voltage.

The controller location should be within sight of the sampler and require connecting air lines to the sampler of no more than 30 feet.

Connect a compressed air supply line to the sampler operating controller of nominal flow capacity in the range of 2 SCFM at 80 psig (5.5 barg) to 120 psig (8.3 barg). Dry, oil-free air gives best operation with minimum maintenance. Adequate use of air filters is recommended. Minimum pressure setting of 30 psig (2.1 barg) is required. The maximum pressure setting should be less than the incoming air supply to ensure steady, regulated pressure on the sampler.

## Automatic Cycle Rate

Select a cycle rate on an adjustable delay timer that will provide an adequate sample composite for the container in use. DO NOT overfill the container. Sample delivery is charted for samplers with 120 cc and 200 cc liquid volumetric displacement per cycle. A partial chart is shown on the following page. Cycle rate is a combination of the time needed to fully extend the plunger into the product line, then completely retract and discharge the sample collected.

### NOTE

**The plunger should remain extended into the process flow for the shortest amount of time possible.**

To convert cubic centimeters to fluid ounces, multiply by .0338. There are approximately 30cc (29.5735) to one fluid ounce, 128 fluid ounces to one U.S. gallon.

$$*\text{CYCLE TIME} = \frac{\text{CC PER CYCLE} \times \text{TOTAL SAMPLING TIME (SEC)}}{\text{TOTAL SAMPLE (CC)}}$$

$$*\text{CYCLE TIME (SEC)} = \text{EXTEND TIME} + \text{RETRACT TIME}$$

Specialized controls are available on request to suit various requirements.



total sample (cc) at 120 cc per cycle						
	total sampling time					
cycle time*	5 min	10 min	30 min	1 hr	8 hr	24 hr
5 sec	7200	14400	43200	86400	691200	2073600
10 sec	3600	7200	21600	43200	345600	1036800
15 sec	2400	4800	14400	28800	230400	691200
20 sec	1800	3600	10800	21600	172800	518400
30 sec	1200	2400	7200	14400	115200	345600
60 sec	600	1200	3600	7200	57600	172800
120 sec	240	600	1800	3600	28800	86400
300 sec	120	240	720	1440	11520	34560
480 sec	--	120	360	840	7200	21600
600 sec.	--	120	360	720	5760	17280

total sample (cc) at 200 cc per cycle						
	total sampling time					
cycle time*	5 min	10 min	30 min	1 hr	8 hr	24 hr
5 sec	12000	24000	72000	144000	1152000	3456000
10 sec	6000	12000	36000	72000	576000	1728000
15 sec	4000	8000	24000	48000	384000	1152000
20 sec	3000	6000	18000	36000	288000	864000
30 sec	2000	4000	12000	24000	192000	576000
60 sec	1000	2000	6000	12000	96000	288000
120 sec	400	1000	3000	6000	48000	144000
300 sec	200	400	1200	2400	19200	57600
480 sec	--	200	600	1400	12000	36000
600 sec.	--	200	600	1200	9600	28800

The sampler design precludes marking each component of the sampler with a part or serial number. We recommend the user uniquely identify each sampler and controller. Equipment identification becomes invaluable when operating more than one sampling instrument serviced through a central maintenance facility. Identification tags can be provided from Sentry Equipment in laminated plastic or metal to be attached to the sampler or controller. Price of the tags is available upon request.

Sampling should be performed only when the product is moving. Sampling from stagnant (stationary) product can bias the sample. Starting and stopping the sampling system can be done manually or by interlocking to a pump or valve. Special controls are available for use with flow meters or for remote computer operation.

### CAUTION

Product collected with each sampler plunger cycle drains from the discharge port (P1) of the sampler into the container. However, there is always some clingage to wetted parts. Those collecting samples should be instructed in proper techniques and care when handling containers. If required, users should wear protective equipment such as gloves, masks or other clothing at all times when operating sampling equipment where exposure to the sampled product could be hazardous.

## Venting

Samplers used on pressurized lines – where expansion of entrained gas, air, steam or fumes could cause a pressure rise in the sample bottle – require adequate venting.

1. Venting may be provided by a port in the bottle adapter or body top port of the sampling instrument. Ensure any potentially hazardous fumes or product are conducted to a safe area. Periodically check to ensure the vents are open and unclogged.
2. Vent or drain ports always should be located to avoid accidental exposure of an operator to hazardous or hot material. Where evaporation or vapor loss through a vent is undesirable, the vent should be equipped with a proper control.
3. Contact Sentry Equipment Corp for clarification of any questions on venting of the sampler system.

## Sample Collection Containers

### WARNING

Always ensure controller is OFF before mounting or exchanging sample containers.

The sampler has been provided with one of a variety of sample collection container connections. See the accompanying drawing to identify which has been provided.

1. Sample collection containers always should be clean and completely dry before being used. Containers (bottles) of polypropylene most often are utilized.
2. SCREW MOUNT CONTAINERS. These adapters have a suitable threaded port and mount onto a discharge port.
3. SEPARATE CONTAINERS. Suitable piping connections for metal or plastic components can be arranged to conduct sample portions to a separate container. Whenever such piping is installed, avoid long runs with multiple fittings, joints or other areas where solids or crystals could build up and block flow.

## Maintenance

### WARNING

Sampler must not be disassembled or removed from line until line is free of product, is at atmospheric pressure, all components are at safe temperature, and all services have been shut off.

## Sampler Cleaning

1. Operating an accurate and valid sampling installation is critically dependent on effective cleaning procedures. ISOLOK samplers incorporate materials, finishes and design to allow effective cleaning of seals, ports, vents and interior body cavities.
2. Whenever a sampler is cleaned, it should be lubricated and inspected for wear and damage that can affect its continued successful operation. The sampler periodically should be checked for proper operation and to ensure that any wear is detected for preventive maintenance.

3. On continuous duty installations, the sampler should be checked once a day for proper operation. On all installations, a definite schedule of inspection should be established to ensure safe and accurate sampling operation. ISOLOK samplers initially must be installed and periodically inspected to ensure all connections, clamps and fasteners are firmly tightened. Failure to keep screws or connections properly secured could result in leakage or damage.
4. Do not weld, machine or otherwise modify the sampler or control in any manner. Consult Sentry Equipment Corp before undertaking any changes. Follow your plant safety procedures whenever maintenance or inspection is required on this equipment.
5. We recommend that service records be maintained on sampling equipment. Data should include:
  - a. Sampler: Record date of installation, date of seal replacement, which seals were replaced and the condition of used seals, and the reason they were replaced. Accurate records will assist in determining seal life or if abnormal operating conditions exist. Contact Sentry Equipment Corp if unusual wear or chemical attack to the seals or the metal parts of the sampler occurs.
  - b. Controller: Record the date of installation, the date of timer or air valve replacement, items replaced and the condition of used parts. Indicate the reason they were replaced. Frequent replacement of timers may indicate an issue with the controller operating environment. Impurities in the air supply source may cause premature failure of pneumatic components.

## Sampler Removal

### WARNING

Sampler must not be disassembled or removed from line until line is free of product, is at atmospheric pressure, all components are at safe temperature, and all services have been shut off.

Refer to the included general arrangement and assembly drawings for removal information. All service to the sampler should be performed with it removed from the process line.

## Plunger Seal Disassembly

### WARNING

Sampler must not be disassembled or removed from line until line is free of product, is at atmospheric pressure, all components are at safe temperature, and all services have been shut off.

If preliminary inspection of the sampler plunger or persistent leakage indicates replacement of the plunger seals or o-rings, remove the complete sampler from the line adapter and proceed as follows.

1. Carefully apply compressed air to the rear cylinder port, fully extending the plunger. The plunger seals now can be accessed for inspection without further disassembly.
2. Remove the clamp at the rear of the body or unbolt the air cylinder from the body and withdraw the cylinder and plunger from the body.

### CAUTION

Decompression of seals may occur as the plunger is removed. Protect personnel from exposure to sample material trapped between plunger seals.

3. Unscrew the plunger from the piston rod using the wrench flats provided. Metal parts slide off the spindle. Observe the position of the parts as removed and set aside carefully, taking care not to lose any small parts.
4. If any seal is worn flat on the outside diameter, torn, scored or experiencing chemical degradation, remove the seals from the carriers and sleeve.
5. Check to ensure the spindle has not been bent and all parts are smooth and free of score marks. Scored or damaged parts should be repaired or replaced.

## NOTICE

Do not nick or scratch seal seats.

## Plunger Seal Reassembly

Reassembly is done in reverse order of disassembly procedure. Always work with the sampler group drawing as a guide. The following techniques will be helpful in reassembling seals and components of plunger module.

1. Wipe and clean seal seats of metal parts. Always replace the plunger seals as a complete set.
2. Wipe seals with a light film of process compatible lubricant as an aid in assembly, if required.

## NOTICE

Do not use petroleum-based grease, oil or similar hydrocarbon lubricants on the EPDM plunger seals; they will swell the rubber material.

3. Press seals onto carriers. Use careful, steady hand pressure to avoid seal damage.
4. Seals will stretch more easily if they are warmed on a hot plate or in hot water. Also, lubricate seals before stretching them over the plunger. (Use the optional seal loading tool for ease of seal assembly. Contact Sentry Equipment Corp for more information.)
5. Starting from spindle head end, install components in order and orientation as shown on the sampler group drawing.
6. Screw the plunger assembly carefully into the piston rod by hand. Using the wrench flats provided, torque the spindle to torque value provided on the accompanying drawing. Check the concentricity of the assembled plunger module to ensure it is straight. (Use optional plunger seal alignment sleeve to align the plunger parts before tightening the spindle screws. Contact Sentry Equipment Corp for more information).
7. When the plunger module is assembled with seals, test interference fit of the plunger through the body bore by pushing the plunger back and forth. Reinstall the cylinder and plunger into the body module and clamp securely.

## Piston Seal Disassembly

### WARNING

Sampler must not be disassembled or removed from line until line is free of product, is at atmospheric pressure, all components are at safe temperature, and all services have been shut off.

1. Remove the clamp at the rear of the sampler body or unbolt the air cylinder from the body.
2. Inspect the bore of the barrel for scoring or wear. Wipe out with a dry, non-abrasive cloth.

## **NOTICE**

**Do not use solvents. A heavily scored barrel should be replaced.**

3. Inspect and replace the piston seals and rod seals if needed.
4. Reassemble the plunger to the piston rod and tighten to the torque value provided on the accompanying drawing.
5. Reassemble the barrel to the head. Ensure the o-ring seal is in place and tighten the screws securely.

# Troubleshooting

symptom	possible problem(s)	remedy
Sampler leaks product or air out of bottom ports	<ul style="list-style-type: none"> <li>▪ Worn seals</li> <li>▪ Incorrect installation</li> <li>▪ Other worn parts</li> </ul>	<ul style="list-style-type: none"> <li>▪ Thorough inspection is required</li> <li>▪ Replace worn seals</li> <li>▪ Check any recently replaced seals against drawings for correct installation</li> <li>▪ Replace other worn sampler parts: Body, head, barrel or plunger</li> </ul>
Sampler leaks product at pipe connection	<ul style="list-style-type: none"> <li>▪ Installation misaligned</li> <li>▪ Fastener, clamp/gasket or seals issue</li> </ul>	<ul style="list-style-type: none"> <li>▪ Check installation for misalignment</li> <li>▪ If the installation is threaded, replace locknut fastener and add commercial grade Teflon tape when reinstalling</li> <li>▪ If the installation is tri-clamp or instrument hub, check the clamp/gasket (TC) or o-rings/fasteners (IH) attaching the sampler to the line adapter</li> <li>▪ Replace seals if they are damaged or show signs of chemical attack</li> </ul>
Sample discharge is decreasing	<ul style="list-style-type: none"> <li>▪ Buildup in sample spool cavity or sampler nose</li> </ul>	<ul style="list-style-type: none"> <li>▪ Check sample spool cavity for buildup; if present, add flush or air eject provision to sampler body</li> <li>▪ Check sampler nose for buildup; if present on nose or pipe wall interior, remove the body from the line frequently and clean it using plant procedures</li> </ul>
Sampler will not operate	<ul style="list-style-type: none"> <li>▪ Issues with power source and/or air connections</li> </ul>	<ul style="list-style-type: none"> <li>▪ Check power source and air connections; connect as required</li> <li>▪ Check air lines for proper connection, as plunger must dwell retracted; air lines connected backwards will cause sampler to dwell (pause) extended into the process line</li> <li>▪ Check for air bind; depending on the density of the product sampled, this sometimes can be resolved by opening a top port on the sampler</li> <li>▪ Check sampler operating air pressure and process line pressures; operating air pressure must be sufficient to move the plunger against process pressure. Issue may be resolved by increasing or decreasing air to sampler or relocating sampler.</li> </ul>
Controller does not operate	<ul style="list-style-type: none"> <li>▪ Issues with pneumatic and/or electric power source</li> </ul>	<ul style="list-style-type: none"> <li>▪ Verify correct 115V or other specified power to controller</li> <li>▪ If using a remote contact unit, check the output signal to the controller from the flow meter; check purchase records, and if an incorrect output signal was specified, contact Sentry Equipment</li> <li>▪ Secure a qualified technician to run a complete operating check of timing circuits, remote contact inputs and/or counter inputs that sequence the electric or pneumatic power valve</li> </ul>



# EC DECLARATION OF CONFORMITY

(MSD 2006/42/EC, Annex II, 1, A)

St

Sent from each

**Manufacturer's Name:** Sentry Equipment Corp  
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Wai

**Person authorized to compile the Technical File, established in the Community:**  
Obelis S.A. (see address above)

**Description of the machinery:** ISOLOK Sampler

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**ATEX Classification:**



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The maximum surface temperature of this device is dependent on and may equal process fluid temperature. The process fluid temperature must never exceed the rating of the device. Reference EN13463-1 Section 14.2 (g).

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**Directive(s) Complied with:** European Council Directive on the Safety of Machine 2006/42/EC  
ATEX 94/9/EC

**European Harmonized Standards to which Conformity is Declared:**

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- Te

**EN-13463-1:2009** Non-electrical equipment for use in potentially explosive atmospheres. Basic method and requirements.  
**EN-12100-1:2003** Safety of machinery – Basic concepts, general principles for design. Basic terminology, methodology  
**EN-12100-2:2003** Safety of machinery – Basic concepts, general principles for design. Technical Principles

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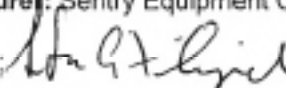
We, the undersigned hereby, declare that the machinery specified above fulfills all the relevant provisions of the European Council Directive 2006/42/EC

▪ R

**Technical File Lodged:** **Manufacturer:** Sentry Equipment Corp

▪ Si p

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