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Introduction and Safety

Introduction

Purpose of this manual
The purpose of this manual is to provide necessary information for:
• Installation
• Operation
• Maintenance

CAUTION:
Read this manual carefully before installing and using the product. Improper use of the product can cause personal injury and damage to property, and may void the warranty.

NOTICE:
Save this manual for future reference, and keep it readily available at the location of the unit.

Other manuals
See also the safety requirements and information in the original manufacturer’s manuals for any other equipment furnished separately for use in this system.

Safety

DANGER:
• Operating, installing, or maintaining the unit in any way that is not covered in this manual could cause death, serious personal injury, or damage to the equipment. This includes any modification to the equipment or use of parts not provided by Xylem. If there is a question regarding the intended use of the equipment, please contact a Xylem representative before proceeding.
• Do not change the service application without the approval of an authorized Xylem representative.

CAUTION:
• The operator must be aware of safety precautions to prevent physical injury.
• Read this manual carefully before installing and using the product. Improper use of the product can cause personal injury and damage to property, and may void the warranty.
You must observe the instructions contained in this manual. Failure to do so could result in physical injury, damage, or delays.

The safety information presented here is organized into the following areas:
• An explanation of safety symbols and hazard levels, see Safety terminology and symbols (page 4)
• Safety precautions to prevent physical injury to personnel, see User safety (page 5)
• Precautions for protecting the environment, see Environmental safety (page 7)
Safety terminology and symbols

About safety messages
It is extremely important that you read, understand, and follow the safety messages and regulations carefully before handling the product. They are published to help prevent these hazards:

- Personal accidents and health problems
- Damage to the product
- Product malfunction

Hazard levels

<table>
<thead>
<tr>
<th>Hazard level</th>
<th>Indication</th>
</tr>
</thead>
<tbody>
<tr>
<td>DANGER:</td>
<td>A hazardous situation which, if not avoided, will result in death or serious injury</td>
</tr>
<tr>
<td>WARNING:</td>
<td>A hazardous situation which, if not avoided, could result in death or serious injury</td>
</tr>
<tr>
<td>CAUTION:</td>
<td>A hazardous situation which, if not avoided, could result in minor or moderate injury</td>
</tr>
</tbody>
</table>
| NOTICE:      | • A potential situation which, if not avoided, could result in undesirable conditions  
                            • A practice not related to personal injury |

Hazard categories
Hazard categories can either fall under hazard levels or let specific symbols replace the ordinary hazard level symbols. Electrical hazards are indicated by the following specific symbol:

Electrical Hazard:

These are examples of other categories that can occur. They fall under the ordinary hazard levels and may use complementing symbols:

- Crush hazard
- Cutting hazard
- Arc flash hazard
User safety

General safety rules

These safety rules apply:

- Machinery in the work area must be de-energized (lockout/tagout) before starting work.
- Pay attention to the risks presented by gases and vapors in the work area.
- Always bear in mind the risk of drowning, electrical dangers, and burn injuries.

Safety equipment

Use personal protective equipment in accordance with applicable laws, regulations, and guidelines.

Personal protective equipment which may be required includes:

- Hard hat
- Safety goggles, preferably with side shields
- Protective shoes
- Protective gloves
- Breathing apparatus
- Hearing protection
- First-aid kit
- Safety devices

NOTICE:

Never operate a unit unless safety devices are installed. Also see specific information about safety devices in other chapters of this manual.

Electrical connections

Electrical connections must be made by certified electricians in compliance with all applicable codes and regulations. For more information about requirements, see sections dealing specifically with electrical connections.

Confined spaces

To ensure your own safety when working in a confined space, follow this procedure.

DANGER:

Before entering the work area, make sure that the atmosphere contains sufficient oxygen and no toxic gases.

WARNING:

The chamber or tank where the equipment is installed should be treated as a confined space. Always follow the applicable safety laws, regulations and guidelines for enclosed spaces.

Never work alone in a confined space. Before entering the space, check that the following requirements are complied with:

- The atmosphere contains sufficient oxygen
- The atmosphere contains no explosive or toxic gases
- All energy sources are locked out and tagged out
- Adequate ventilation is in place
- There is a clear path of retreat
- Monitoring is in place for hazards which can develop after entering the confined space
Drowning

Spaces that are not fully drained or dry can pose a risk of drowning. It takes relatively little standing water or other liquid to create a drowning hazard. For example, insufficient oxygen or the presence of a toxic material can make a worker unconscious, which makes them vulnerable to drowning if they fall face down into a small pool of water. Never work alone where there is a risk of drowning.

**WARNING:**
Always bear in mind the risk of drowning.

Biological hazards

The product is designed for use in liquids that can be hazardous to your health. Observe these rules when you work with the product:
- Make sure that all personnel who may come into contact with biological hazards are vaccinated against diseases to which they may be exposed.
- Observe strict personal cleanliness.

**WARNING:**
Rinse the unit thoroughly with clean water before working on the unit.

Organic dust

**WARNING:**
- Rinse the components in water after dismantling.
- Rinse the unit thoroughly with clean water before working on the unit.

When performing maintenance on the product inside or close to the tank or pit where the product is used, workers may be exposed to organic dust contaminated with microorganisms. Employers and workers can minimize the risks of exposure to organic dust by taking the following precautions:
- Be aware of the adverse health effects of breathing organic dust.
- Use engineering controls such as local exhaust ventilation, and wet methods of dust suppression to minimize exposure to organic dust.
- Use appropriate respirators when exposure to organic dust cannot be avoided.
- Follow all health and safety rules and local codes and ordinances.

Working with solvents

**WARNING:**
Potential fire and explosion hazard: Before working in this area, clear all dust and flammable material from the work area and provide sufficient ventilation.

**CAUTION:**
These chemicals can cause physical injury. Contact the supplier for information and advice for proper handling precautions and procedures.

Be aware of changing conditions when using solvents. Follow all health and safety rules and local codes and ordinances.
Wash the skin and eyes

Follow these procedures for chemicals or hazardous fluids that have come into contact with your eyes or your skin:

<table>
<thead>
<tr>
<th>Condition</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemicals or hazardous fluids in eyes</td>
<td>1. Hold your eyelids apart forcibly with your fingers.</td>
</tr>
<tr>
<td></td>
<td>2. Rinse the eyes with eyewash or running water for at least 15 minutes.</td>
</tr>
<tr>
<td></td>
<td>3. Seek medical attention.</td>
</tr>
<tr>
<td>Chemicals or hazardous fluids on skin</td>
<td>1. Remove contaminated clothing.</td>
</tr>
<tr>
<td></td>
<td>2. Wash the skin with soap and water for at least 1 minute.</td>
</tr>
<tr>
<td></td>
<td>3. Seek medical attention, if necessary.</td>
</tr>
</tbody>
</table>

Environmental safety

The work area

Always keep the station clean to avoid discharge or release of environmentally hazardous substances, and to aid in detecting inadvertent discharges.

Waste and emissions regulations

Observe these safety regulations regarding waste disposal and release of substances:

- Appropriately dispose of all waste.
- Handle and dispose of used or process liquids in compliance with applicable environmental regulations.
- Clean up all spills in accordance with safety and environmental procedures.
- Report all environmental discharges to the appropriate authorities.

WARNING:

Do NOT send the product to the Xylem manufacturer if it has been contaminated by any nuclear radiation. Inform Xylem so that accurate actions can take place.

Recycling guidelines

Always follow local laws and regulations regarding recycling.

Product warranty

Coverage

Xylem undertakes to remedy faults in all equipment supplied under these conditions:

- The faults are due to defects in design, materials, or workmanship.
- The faults are reported to a Xylem representative within the warranty period.
- The product is used only under the conditions described in this manual.
- All service and repair work is done according to the instructions in this manual.
- Genuine parts from the original equipment manufacturers are used.

Replacement does not include labor for removal or re-installation of the unit or parts deemed defective.

Limitations

The warranty does not cover faults caused by these situations:

- Deficient maintenance
- Improper installation
- Modifications or changes to the product and installation made without consulting Xylem
• Incorrectly executed repair work
• Normal wear and tear
Xylem assumes no liability for these situations:
• Bodily injuries
• Material damages
• Economic losses

Warranty claim

Xylem products are high-quality products with expected reliable operation and long life. However, should the need arise for a warranty claim, then contact your Xylem representative.

Spare parts

Xylem guarantees that spare parts will be available for 10 years after the manufacture of this product has been discontinued.
Transportation and Storage

Inspect the delivery

Inspect the package

1. Inspect the package for damaged or missing items upon delivery.
2. Note any damaged or missing items on the receipt and freight bill.
3. File a claim with the shipping company if anything is out of order.
   If the product has been picked up at a distributor, make a claim directly to the distributor.

Inspect the product

1. Inspect the product to determine if any parts have been damaged or are missing.
2. If applicable, unfasten the product by removing any screws, bolts, or straps.
   For your personal safety, be careful when you handle nails and straps.
3. Contact your sales representative if anything is out of order.

Transportation guidelines

Precautions

WARNING:
• Stay clear of suspended loads.
• Observe accident prevention regulations in force.

Lifting

Lifting equipment is always required when handling the shipment. The equipment components can be lifted with either a crane or a forklift.

WARNING:
• Crush hazard. The unit and the components can be heavy. Use proper lifting methods and wear steel-toed shoes at all times.

NOTICE:
• Lift and handle the product carefully, using suitable lifting equipment.
• The product must be securely harnessed for lifting and handling. Use eyebolts or lifting lugs if available.

Lifting with crane

Cranes used to lift the equipment components must fulfill the following requirements:
• The lifting equipment must be able to hoist the equipment components straight up and down, preferably without the need for resetting the lifting hook.
• The lifting strap must be fastened to the lifting points on top of the package.
1. Check that the site where the equipment components will be placed has a clean and level surface.
2. Fasten a suitable lifting strap or sling to the lifting points on top of the pallet, if used.
3. If the equipment components are secured to the flatbed or other surface, then cut the transportation straps.
4. Lift using proper lifting equipment.
5. Place the equipment components on a clean, rigid, horizontal surface so that they cannot fall over.

**Lifting with pallet and forklift**

1. Align the forklift prongs with the forklift hole(s), and insert the prongs.
2. If the pallet is secured to the flatbed or other surface, then cut the transportation straps.
3. Lift the pallet and move it to its new position.
4. Place the pallet on a clean, rigid, horizontal surface so that it cannot fall over.

**Storage guidelines**

**Dry storage location**

The storage site must be available before equipment arrival. The product must be stored in a level, covered, and dry location free from heat, dirt, and vibrations. The diffusers must be kept in the original packaging until the final installation unless they are pre-mounted on the pipe.

**NOTICE:**

- Do not stack shipping units.
- Do not place heavy weights on the packed product.
- Protect the product against humidity, heat sources, and mechanical damage.
- Do not cover the pipe components with plastic. Excessive heat build-up can damage plastic pipes and void the warranty.
- Risk of wear. Make sure the equipment is clean before it is placed into service.
System Description

Diffusers included

<table>
<thead>
<tr>
<th>Type</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse bubble</td>
<td>D12</td>
</tr>
<tr>
<td></td>
<td>D24</td>
</tr>
</tbody>
</table>

Diffuser design

Coarse bubble diffusers are designed for reliable aeration of sludge, and in other severe applications.

Intended use

The product is only for use with municipal and industrial wastewater. Always follow the limits given in Application limits (page 22). If there is a question regarding the intended use of the equipment, please contact a sales representative before proceeding.

Definition of system components

The main components in an aeration system are shown in the figure below.

<table>
<thead>
<tr>
<th>Position number</th>
<th>Description</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Blower</td>
<td>The device that distributes the air to the air main.</td>
</tr>
<tr>
<td>2</td>
<td>Air main</td>
<td>The pipe that connects the blower to the upper dropleg.</td>
</tr>
<tr>
<td>3</td>
<td>Upper dropleg</td>
<td>The pipe that connects the air main to the lower dropleg.</td>
</tr>
<tr>
<td>4</td>
<td>Lower dropleg</td>
<td>The pipe that connects the upper dropleg to the manifold.</td>
</tr>
</tbody>
</table>
| 5               | Manifold        | The pipe that connects the lower dropleg to the air distributor. There are no holders mounted on this pipe.
<table>
<thead>
<tr>
<th>Position number</th>
<th>Description</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Air distributor</td>
<td>A set of pipes, couplings, and diffusers from the manifold to the end cap.</td>
</tr>
<tr>
<td>7</td>
<td>Diffuser</td>
<td>The diffuser forms part of the air distributor, and distributes the air to the liquid.</td>
</tr>
</tbody>
</table>
Installation

Precautions

WARNING:
Always follow safety guidelines when working on the product. See Introduction and Safety (page 3).

Requirements

The following requirements apply:

- Never work alone.
- Make sure to have a clear path of retreat.
- Make sure that the work area is properly ventilated.
- Provide a suitable barrier around the work area, for example a guard rail.
- Check the explosion risk before you weld or use electrical hand tools.
- Ensure that welding or construction work does not damage the aeration system equipment.
- Use the installation drawings, containing the required part number designation, in order to ensure proper installation.
- Remove all debris from the air main before installation.

The figures in the instructions can differ from the delivered products.

Dropleg and manifold installation
Droplets, manifolds, and pipes are installed according to separate instructions.

Diffuser installation

Prerequisites

- Before installing the diffusers, ensure that a commercial thread compound is applied to the connector threads before diffuser or plug installation.
- See the installation drawings for proper diffuser or plug installation location.

NOTICE: Stainless steel threads can wear and seize or strip. Apply a suitable thread lubricant.

1. Air distributor
2. Connector
3. Plug
4. Diffuser
Install the connectors

1. Stainless steel pipe (supplied locally)
2. Pulled nozzle connection with smooth, rounded entrance
3. Reinforcing gusset (supplied locally)
4. Connector
5. Butt weld

1. Butt weld the connector to the stainless steel pipe.
2. Weld the reinforcing gusset to the air distributor and to the connector.

Install the diffusers

1. Install the diffuser or plug:
   a) Apply lubricant on the threads.
   b) Install the diffuser or plug on the connector.
      Screw by hand as far as possible.
   c) Tighten the diffuser or plug.
      Use a wrench.
      Make at least one complete turn to insure proper thread engagement.
      Tighten the diffusers until the V shaped bottom deflector is pointed directly toward the floor.
2. Level the diffusers:
The total range of outboard diffuser tip elevation variation is ± 19 mm (3/4 in). This variation is due to:

- Diffuser fabrication tolerances that allow ± 9.5 mm (3/8 in) variation in elevation from diffuser to diffuser along the air distributor length. This variation is measured at the threaded diffuser connection.
- Connector angular variations that allow an additional ± 9.5 mm (3/8 in) variation of the outboard ends of the diffuser.

3. Proceed with the installation of the air distributor according to the appropriate instructions.

Tank storage

Xylem assumes no responsibility for damage and cleaning requirements as a result of long-term storage. See Application limits (page 22) for temperature limitations.

- Equipment flooded by overflows, misdirected sewage flows, and excessive airborne dirt build-up require cleaning before being placed in service.
- Standing water which is allowed to freeze around the pipe can break the pipe or cause diffusers to crack.
- UV light degradation and heat build-up in the tank bottom can cause warping and loss of some structural properties.

**NOTICE:**
Risk of wear. Make sure the equipment is clean before it is placed into service.

Store in tank with neither air nor water

This procedure applies to storing in tanks when flooding is undesirable.

1. Drain tanks dry.
2. Clean out solids and debris.
3. Open spline couplings and loosen support band clamps as required.
4. Roll the air distributor sections over 180°.
5. Make sure that spline couplings and floor drains remain open to prevent water from standing in the pipe system and tank.
Operation

Precautions

**WARNING:**
Always follow safety guidelines when working on the product. See *Introduction and Safety* (page 3).

- Never work alone.
- Make sure that you have a clear path of retreat.
- Never operate the system without safety devices installed.
- Make sure that all safety guards are in place and secure.

**Preconditions**

Perform a final tank inspection:
- Tighten any loose nuts, joints, or end caps. Check the following:
  - Expansion joint bolts must be double nutted.
  - U-bolts and crosstree supports have double nut systems if indicated on the erection drawings.
  - Anchor bolts are tightened to the torque values listed in the anchor manufacturer's installation instructions.
  - Dropleg and leveling flange through bolts have double nuts if indicated on the erection drawings.
- Replace any missing or improperly placed hardware.
- Ensure that all hardware including anchor bolts is stainless steel.

*Check using a magnet as stainless steel is not magnetic.*

**NOTICE:**
Risk of equipment failure. Do not install non-stainless steel hardware.

- Ensure that the diffusers are oriented with the V shaped bottom deflector pointing downward.

Before starting the system, ensure that all repair work is completed. Before doing any work, see *Introduction and Safety* (page 3).

**Start the system**

Complete the start-up procedure before the site visit by authorized service personnel.

**WARNING:**
- Slips and falls can cause severe injuries.
- Bear in mind the risk of drowning.

**NOTICE:**
To avoid damage to the piping, introduce water to the tank at a low flow rate and avoid vertical water flow falling directly on the piping.

1. Fill the tank with clean water to a point approximately 5 cm (2 in.) above the base elevation air distributor sections that have diffusers that are mounted to them.
2. Turn on the air at a rate of approximately 50% of the design flow.
3. Observe the following:
   a) Check the air distributor for leaking couplings or end caps and note their location.
   b) Check the diffuser connection with the air distributor for leaks. Excessive mounding of air at this location indicates that the diffuser is not properly tightened.
   c) Check the uniformity of air distribution throughout the aeration system. Note the locations of excessively high or low air discharge.
4. If there are leaks or non-uniform air discharge, then turn off the air. Lower the water, if necessary, and proceed with the adjustments needed.
5. Repair the leaks at the couplings, removable end caps or diffuser connectors.
   Leaking at spline or expansion couplings is normally due to:
   • The expansion coupling O-ring is pinched or out of place.
   • The coupling retainer ring is cross threaded in the spigot.
   • The coupling is not tight.
   Turn the air on and off as needed during the adjusting stage to check the repairs.
   When repairing pipe couplings, turn off the air supply to the assembly being worked on.
6. Check isolated non-discharging diffusers for plugging or debris. Clean out as required.
7. Adjust the air distributor levels.
   a) Raise or level any sections of the air distributor from which air is not discharging or discharging at a noticeably lower rate.
   b) Lower any section of the air distributor from which air is discharging at a noticeably higher rate.
   After adjusting the air distributor elevation, then check the discharge by turning on the air. Continue adjusting if necessary. If the air distributor section is fixed, then downstream sections must be adjusted in order to balance the system.
   By draining the water down to the top of the diffusers, the water level can also be used to check the levelness in the system.
8. Continue filling water, turn on the air and check for joint or removable end cap leaks.
   Tighten or repair as necessary. Follow the appropriate instructions.
9. Use a soap solution to check for leaks at clamp couplings or flanged joints which are not submerged. Tighten or repair as necessary. Follow the appropriate instructions.
   If required, then contact Xylem to arrange for an installation inspection by an authorized service representative.
   If the system is not put into operation immediately, then check the long term storage requirements.
Maintenance

Precautions

WARNING:
Always follow safety guidelines when working on the product. See *Introduction and Safety* (page 3).

Requirements

The following requirements apply:
- Never work alone.
- Make sure to have a clear path of retreat.
- Make sure that the work area is properly ventilated.
- Provide a suitable barrier around the work area, for example a guard rail.
- Check the explosion risk before you weld or use electrical hand tools.
- Make sure that the product and its components have been thoroughly cleaned.

The figures in the instructions can differ from the delivered products.

Preventive maintenance

The operator should keep a regular log of pressure and dissolved oxygen readings.

Diffuser fouling is indicated by a continuous increase in:
- Operating pressure
- Air demand without a change in the aeration tank loading
- Air demand with a decrease of dissolved oxygen levels

This chapter includes instructions for:
- Power failure and loss of air supply
- Visual inspection

Power failure and loss of air supply

The results of a power failure and loss of air supply are as follows:
- Solids settle on the piping assembly, diffuser surface, and tank floor.
- Filtered mixed liquor enters the pipe network through the diffusers or piping leaks.

The short-term effect is none. The long-term effect is fouling or plugging in the piping assembly.

When the air supply is restored, the air pressure builds and the flow is reduced. The air is released through the diffusers when sufficient water is pushed out of the system.

To force solids out of the piping, shut down adjacent assemblies or turn on additional blowers to increase the air flow rate. This procedure can be required in long term intermittently used aeration systems.

Visual inspection

Visual inspection is an ongoing preventative maintenance step and can be done while taking routine samples.
- Visually inspect the aeration tank surface pattern.
  The flow should be, for the most part, evenly distributed.
- Look for large boiling in an isolated area.
  Large boiling indicates a failure in the submerged pipe system or a broken diffuser.
Air main leaks are easily identified and usually caused by loose joints or degraded gaskets. Repair quickly in order to prevent loss of system efficiency. See the appropriate maintenance instruction.

Recurrent maintenance

Maintenance schedule

The following service schedule is recommended to be observed at least once per year.
1. Drain each tank.
2. Remove excess settled solids that have accumulated.
3. Clean diffusers. See Diffuser cleaning (page 20).
4. Inspect support hardware to ensure that all components are intact and tight.
5. Inspect gasket and o-rings for deterioration or leakage. Replace as required.
6. Inspect the bolted connections to make sure all components are tight.

For hardware inspection, see also the corresponding section in the installation chapter, or in other appropriate documentation.

Diffuser cleaning

Clean the diffusers

Units installed in high viscosity solutions, such as aerobic digesters, should be inspected annually for deposition of solids.
1. Drain the aeration tank.
2. Remove any accumulated, stringy, rope-like mass around the diffuser connection to the air distributor.
   This normally does not affect the performance of the diffuser.
3. Remove the diffuser and inspect the orifice.
4. Remove any foreign material.
5. Inspect and clean the air distributor, if required.
6. Flush the diffusers and air distributor sections with clean high pressure water, if needed.
7. Lubricate the 3/4 in. male diffuser connector before reinstallation. See installation instructions.
Troubleshooting

Operational troubleshooting

For instructions, see chapter Maintenance (page 19). For instructions on how to handle other equipment such as air blowers, see the instructions from the manufacturer.

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor air distribution</td>
<td>Diffusers not level</td>
<td>Level system</td>
</tr>
<tr>
<td>Non-uniform air distribution</td>
<td>Insufficient air</td>
<td>Provide more air</td>
</tr>
<tr>
<td></td>
<td>Plugged orifice</td>
<td>Drain the tank, inspect and clean as necessary</td>
</tr>
<tr>
<td></td>
<td>Not enough orifices, or too small orifices</td>
<td>Install correct size and number of orifices</td>
</tr>
<tr>
<td>Visible mounding of air in one location</td>
<td>Broken pipe, leaking seals or missing diffusers</td>
<td>Drain the tank, repair or replace as required</td>
</tr>
<tr>
<td>Low dissolved oxygen (D O) concentration, mixed liquor is dark and odorous</td>
<td>Too little air</td>
<td>Increase air flow</td>
</tr>
<tr>
<td>Increased operating pressure</td>
<td>Blower filters are dirty</td>
<td>Replace or clean filters</td>
</tr>
<tr>
<td></td>
<td>Excessive valve throttling towards closed position</td>
<td>Open the valves</td>
</tr>
<tr>
<td></td>
<td>Aeration equipment is plugged</td>
<td>Clean the aeration equipment</td>
</tr>
<tr>
<td>Excessive solids settling under the aeration equipment on the tank floor</td>
<td>Inadequate air supply</td>
<td>Increase air flow</td>
</tr>
<tr>
<td></td>
<td>The solids are too large and of too high specific gravity to be kept in suspension</td>
<td>Add or improve the grit handling equipment</td>
</tr>
<tr>
<td>The tank contents appear highly viscous and air escapes at surface intermittently in very large exploding bubbles</td>
<td>The solids concentration is too high for mixing by diffused aeration</td>
<td>Decrease the solids concentration and/or augment mixing with mechanical mixers</td>
</tr>
</tbody>
</table>

Diffuser fouling

Stainless steel coarse bubble diffusers rarely become plugged and normally require no maintenance or cleaning. An accumulation of a stringy rope-like mass around the diffuser near the connection to the air distributor can occur. This does not normally affect the performance of the stainless steel diffuser.

When the blower is inoperative and the blower check valve or a system leak allows the air pressure to drop below the hydraulic waterborne solids can enter the stainless steel diffuser. If this condition is repeated frequently, these solids could agglomerate in the piping system through the diffuser and result in orifice plugging.

Diffusers removed for inspection must be replaced as described in the installation instructions.
Technical Reference

Application limits

<table>
<thead>
<tr>
<th>Data</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Media (liquid) temperature</td>
<td>• Minimum +2°C (+36°F)</td>
</tr>
<tr>
<td></td>
<td>• Maximum +38°C (+100°F)</td>
</tr>
<tr>
<td>Average pipe temperature, at diffuser</td>
<td>• Minimum –10°C (+14°F)</td>
</tr>
<tr>
<td></td>
<td>• Maximum +40°C (+104°F)</td>
</tr>
<tr>
<td>Average pipe temperature, at lower dropleg</td>
<td>Maximum +55°C (+131°F)</td>
</tr>
</tbody>
</table>

The product is only for use with municipal and industrial wastewater.
Xylem |ˈzɪləm|

1) The tissue in plants that brings water upward from the roots
2) A leading global water technology company

We’re 12,500 people unified in a common purpose: creating innovative solutions to meet our world’s water needs. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. We move, treat, analyze, and return water to the environment, and we help people use water efficiently, in their homes, buildings, factories and farms. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise, backed by a legacy of innovation.

For more information on how Xylem can help you, go to xyleminc.com