3-A, installation and cleaning instructions
## CONTENTS

1 About this document .......................................................... 3
   1.1 Function ..................................................................... 3
   1.2 Scope ......................................................................... 3

2 3-A Standards ................................................................... 4
   2.1 3-A Standards - Meaning and implementation ........... 4

3 Device version ................................................................... 5
   3.1 Device version ........................................................... 5

4 Mounting .......................................................................... 6
   4.1 Mounting ................................................................. 6

5 Maintenance and cleaning .................................................. 7
   5.1 Maintenance and cleaning ......................................... 7

6 Manufacturer’s declaration ................................................ 8
   6.1 Manufacturer’s declaration OPTISENS TSS 7000 ........ 8

7 Notes ............................................................................... 9
1.1 Function

This manual contains the most important information regarding the use of the OPTISENS TSS 7000 according to the 3-A Sanitary Standards for Refractometers and Energy Absorbing Optical Sensors for Milk and Milk Products, Number 46-03.

1.2 Scope

The manual applies to OPTISENS TSS 7000 with hygienic process connections.

The hygienic process connections are:

- 2” TriClamp
- 3” TriClamp
- Varivent®N
2.1 3-A Standards - Meaning and implementation

Meaning of 3-A
The 3-A Sanitary Standards Incorporation publishes hygiene standards which contain guidelines for materials, design and manufacturing methods. The organisation verifies compliance to the hygienic design. Compliance is inspected by an independent third body, the CCE (Certified Conformance Evaluator). Once compliance has been verified, the 3-A SSI (Sanitary Standards Incorporation) issues a symbol licence for the 3-A logo.

Use of devices in accordance with 3-A
The use of devices and components that bear the 3-A logo is evidence that the design has been inspected. The certificate always applies to a combination of a sensor and process connection. Both components in this combination must conform to 3-A standards. The 3-A logo looks like this:

Use in accordance with 3-A entails enhanced or special requirements compared to standard applications. This applies in particular to:

- Housing design (e.g. easy to clean)
- Process connection design (e.g. visibility of potential leaks)
- Gaskets (e.g. FDA and 3-A compliance, stability)
- Installation position on the tank (e.g. self-draining)
- Cleaning, maintenance (intervals, methods)
3.1 Device version

Process connection
The device must be assembled according to 3-A Standard 63-03 using appropriate gaskets.

The device has to be installed in such a way that drainability is ensured.

Gaskets
The user is responsible for:

- Using a suitable material.
- Defining adequate service intervals.
- Using an elastomer sealing material according to 3-A ANSI General Requirements Standard number 00-01-2018.
- The right dimension of the gasket.
4.1 Mounting

Observe the following for a measuring point in accordance with 3-A standards:

- The wetted part materials agree with 3-A ANSI General Requirements Standard number 00-01-2018. Please be aware that the gasket corresponds to the product and the pressure limits.
- The device has to be installed in such a way that drainability is ensured.
- Center the clamp or Varivent® connection over the corresponding fitting and gasket.
- Use a suitable connection element [e.g. half ring or clamp ring connection] to attach the device according to the manufacturer’s specification.
- Welding connections must have a surface roughness ≤ 0.8 µm.
- Weld in connections must be welded flush to the inside of the tank or pipeline.

The following figure illustrates the mandatory mounting position.

![Figure 4-1: Mandatory mounting position](image)

If a different mounting position is chosen, the user must implement the appropriate measures to enable the sensor to self-drain.
5.1 Maintenance and cleaning

Maintenance
When replacing the seal, carefully clean the accessible surface. The user aligns the intervals according to the process conditions and the gasket materials (3-A ANSI General Requirements Standard number 00-01-2018).

Cleaning
Keep the sensor clean using validated state of the art cleaning processes. Check that it has been successfully cleaned by removing the sensor. It is the user’s responsibility to check the resistance of the gasket material and sensor as related to the product and the cleaning process.

WARNING!
Due to the materials (PP and PVDF) only CIP cleaning is possible.

<table>
<thead>
<tr>
<th>Operating temperature (CIP)</th>
<th>PP: 0...85°C / 32...185°F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PVDF: 0...105°C / 32...221°F</td>
</tr>
</tbody>
</table>
### 6.1 Manufacturer’s declaration OPTISENS TSS 7000

<table>
<thead>
<tr>
<th>Designation</th>
<th>Version</th>
<th>Hygienic Connection</th>
<th>Body material / temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>VGAY 4 72222030110x</td>
<td>Optical path length: 10 mm</td>
<td>2” TriClamp</td>
<td>PP 0...85°C / 32...185°F</td>
</tr>
<tr>
<td>VGAY 4 72222040110x</td>
<td>Optical path length: 10 mm</td>
<td>3” TriClamp</td>
<td>PP 0...85°C / 32...185°F</td>
</tr>
<tr>
<td>VGAY 4 72322040110x</td>
<td>Optical path length: 20 mm</td>
<td>3” TriClamp</td>
<td>PP 0...85°C / 32...185°F</td>
</tr>
<tr>
<td>VGAY 4 72422040110x</td>
<td>Optical path length: 40 mm</td>
<td>3” TriClamp</td>
<td>PP 0...85°C / 32...185°F</td>
</tr>
<tr>
<td>VGAY 4 72322050110x</td>
<td>Optical path length: 20 mm</td>
<td>Varivent® N</td>
<td>PP 0...85°C / 32...185°F</td>
</tr>
<tr>
<td>VGAY 4 72422050110x</td>
<td>Optical path length: 40 mm</td>
<td>Varivent® N</td>
<td>PP 0...85°C / 32...185°F</td>
</tr>
<tr>
<td>VGAY 4 72333040110x</td>
<td>Optical path length: 20 mm</td>
<td>3” TriClamp</td>
<td>PVDF 0...105°C / 32...221°F</td>
</tr>
</tbody>
</table>
KROHNE – Process instrumentation and measurement solutions

- Flow
- Level
- Temperature
- Pressure
- Process Analysis
- Services

Head Office KROHNE Messtechnik GmbH
Ludwig-Krohne-Str. 5
47058 Duisburg (Germany)
Tel.: +49 203 301 0
Fax: +49 203 301 10389
info@krohne.com

The current list of all KROHNE contacts and addresses can be found at:
www.krohne.com