INSTALLATION, OPERATION, AND MAINTENANCE MANUAL
WELKER® FLUID SENTINEL

MODEL
WFS-A

DRAWING NUMBER
AD037LR

MANUAL NUMBER
IOM-107

REVISION
Rev. A, 11/20/2014

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IMPORTANT SAFETY INFORMATION
READ ALL INSTRUCTIONS

Notes emphasize information and / or provide additional information to assist the user.

Caution messages appear before procedures that, if not observed, could result in damage to equipment.

Warning messages appear before procedures that, if not observed, could result in personal injury.

This manual is intended to be used as a basic installation and operation guide for the Welker® Fluid Sentinel, WFS-A. For comprehensive instructions, please refer to the IOM Manuals for each individual component. A list of relevant component IOM Manuals is provided in the Appendix section of this manual.

BEFORE YOU BEGIN

Read these instructions completely and carefully.

IMPORTANT – Save these instructions for local inspector's use.

IMPORTANT – Observe all governing codes and ordinances.

Note to Installer – Leave these instructions with the consumer.

Note to Consumer – Keep these instructions for future reference.

Skill Level – Installation of this Fluid Sentinel requires basic mechanical skills.

Proper installation is the responsibility of the installer. Product failure due to improper installation is not covered under the warranty.

If you received a damaged Fluid Sentinel, you should immediately contact a Welker® representative.

Phone: 281.491.2331
Address: 13839 West Bellfort Street
Sugar Land, TX 77498

SECTION 1: PRODUCT INFORMATION

1.1 Introduction

We appreciate your business and your choice of Welker® products. The installation, operation, and maintenance liability for this product becomes that of the purchaser at the time of receipt. Reading the applicable *Installation, Operation, and Maintenance* (IOM) *Manual* prior to installation and operation of this equipment is required for a full understanding of its application and performance prior to use.*

If you have any questions, please call 1-281-491-2331.

**The following procedures have been written for use with standard Welker® parts and equipment. Assemblies that have been modified may have additional requirements and specifications that are not listed in this manual.*

1.2 Product Description

The Welker® *WFS-A* Fluid Sentinel is a Welker® patented product designed to separate liquids during gas sampling.

The inner centrifugal design separates free liquids from gas, reducing liquid carryover. By separating free liquids from the natural gas being analyzed, the WFS-A protects connected analyzers.

Welker® may custom design the WFS-A to suit the particular application and specifications of each customer.

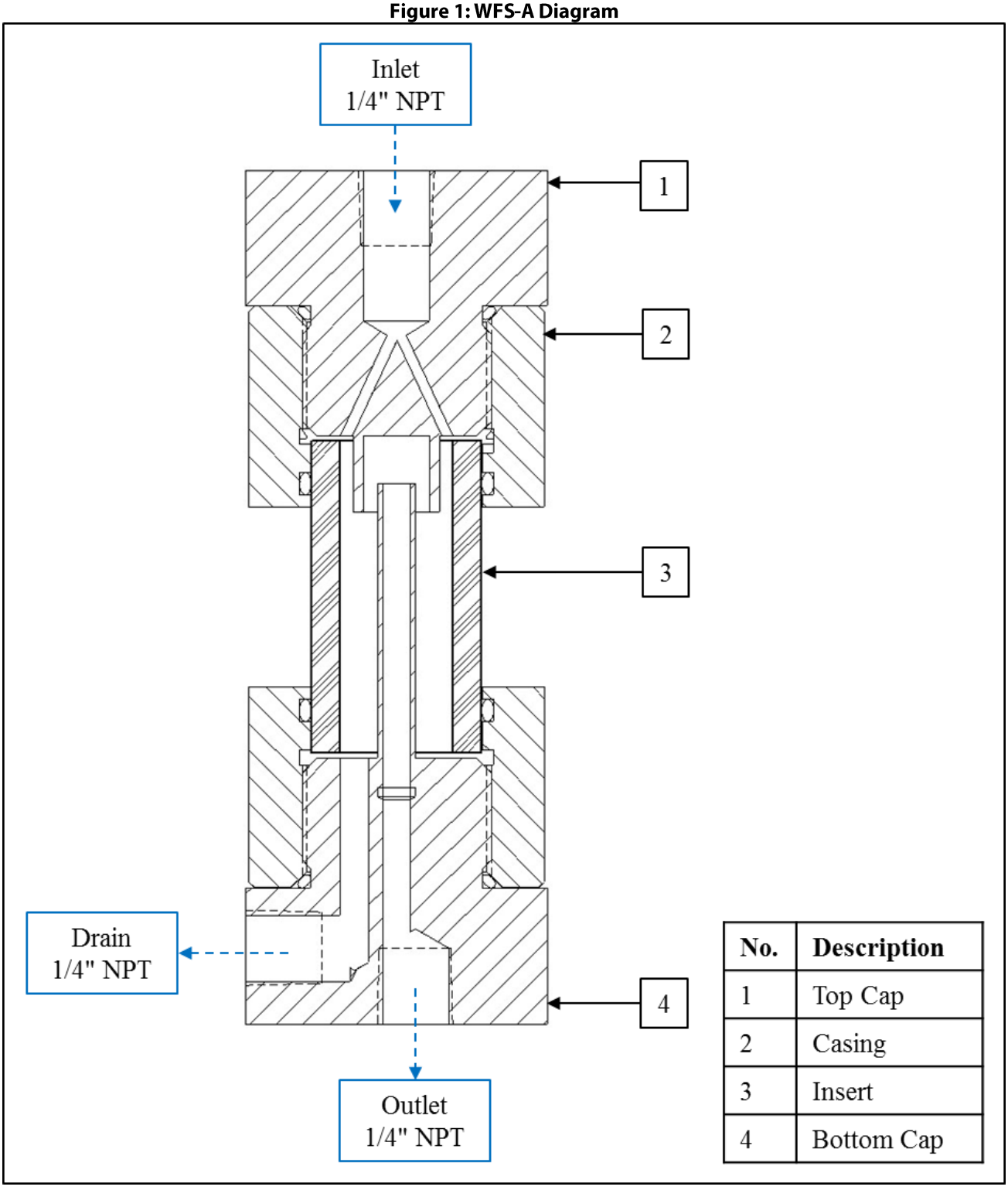
1.3 Specifications

The specifications listed in this section are generalized for this equipment. Welker® can modify the equipment according to your company's needs. However, **please note that the specifications may vary depending on the customization of your product.**

Table 1: WFS-A Specifications	
Products	Natural Gas
Materials of Construction	316 / 316L Stainless Steel, PTFE, Viton® Others Available
Maximum Allowable Operating Pressure	3600 psig @ -20°F to 100°F (*248 barg @ -28°C to 37°C*)
Connections	1/4" NPT Standard Others Available
Options	1/8" Pigtail and Valve 1/8" Pigtail and Valve With Bleed Plug Mounting and Drain Hardware Sulfinert®-Treated Sample Exposed Parts

1.4 System Diagram

Figure 1: WFS-A Diagram



No.	Description
1	Top Cap
2	Casing
3	Insert
4	Bottom Cap

SECTION 2: INSTALLATION & OPERATION

2.1 Before You Begin

After unpacking the unit, check the equipment for compliance and for any damage that may have occurred during shipment. Immediately contact a Welker® representative if you received damaged equipment.

When sealing fittings with PTFE tape, refer to the proper sealing instructions for the tape used.

2.2 Installation

The WFS can be used in conjunction with existing samplers and sample containers. Refer to the *Installation, Operation, and Maintenance* (IOM) *Manual* of the sampling system and company standards for proper equipment arrangement.

The WFS should be installed vertically in line with the sample point and the sample container.

1. Using 1/4" tubing, connect the sampler outlet to the product inlet on the WFS.
2. Using 1/4" tubing, connect the sample container inlet to the product outlet on the WFS.
3. Install a drain valve to the WFS if one is not present.

The drain port on the WFS should face down.

2.3 Operation

1. Ensure that the drain valve on the WFS is closed.
2. Begin sampling. Refer to the *Installation, Operation, and Maintenance* (IOM) *Manual* of the sampling system and company standards for proper sampling instructions.
3. Periodically open the drain valve to check for liquids. If liquids are present, maintenance is required. Refer to *Section 3.2, Maintenance,* for maintenance procedures.

SECTION 3: MAINTENANCE

3.1 Before You Begin

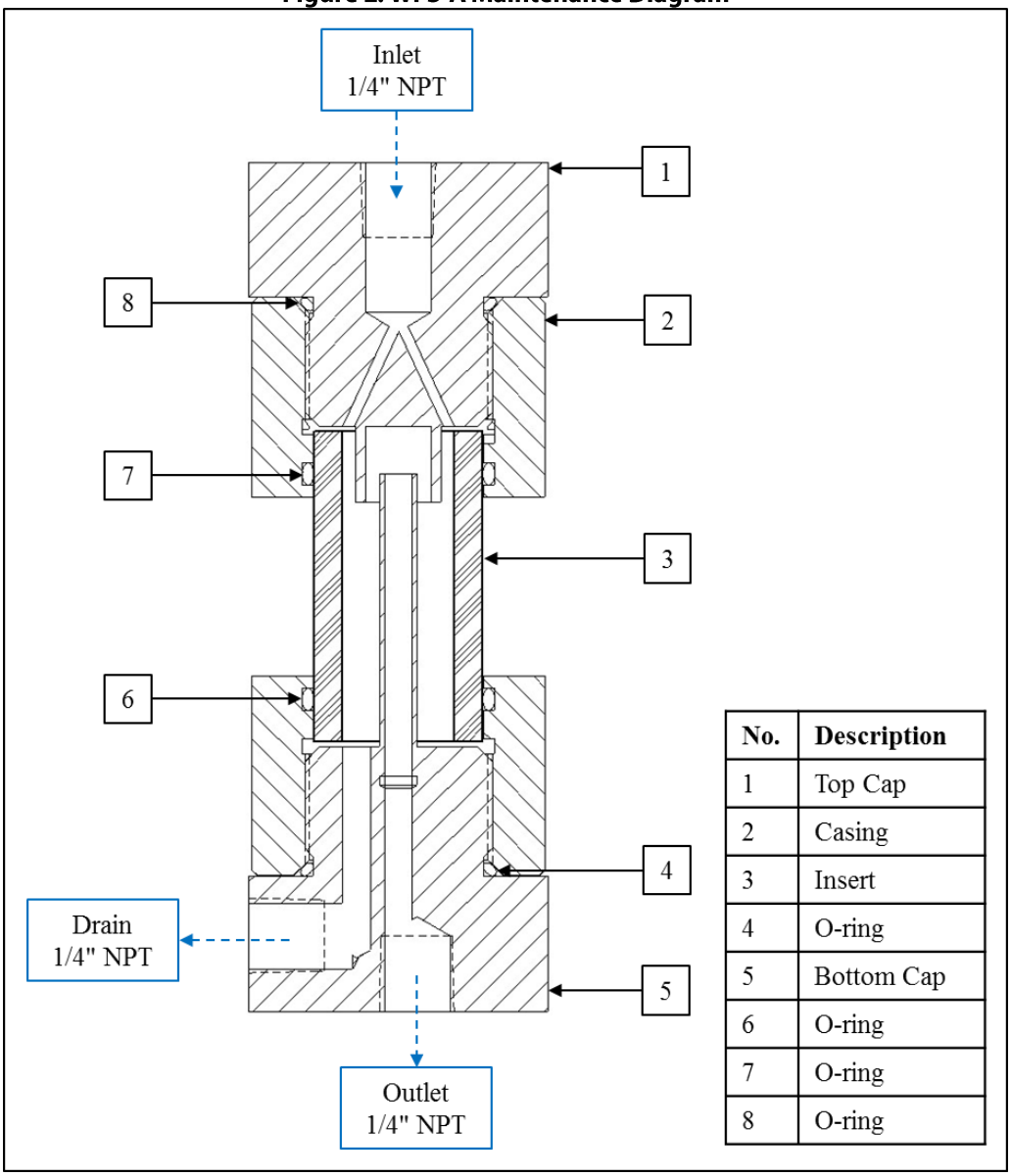
1. **Maintenance is necessary when liquids are present to prevent cross-contamination between samples.**
2. If no liquids are present, **Welker® recommends that the unit have regular yearly maintenance.**
3. Prior to maintenance or disassembly of the unit, it is advisable to have a repair kit available for repairs of the system in case of unexpected wear or faulty seals.

> New seals supplied in spare parts kits are not lubricated. They should be lightly lubricated before installation. Welker® recommends Dow Corning® 111 (DC 111) or an equivalent lubricant for use with this unit.

4. All maintenance and cleaning of the unit should be performed on a smooth, clean surface.

3.2 Maintenance

Figure 2: WFS-A Maintenance Diagram



No.	Description
1	Top Cap
2	Casing
3	Insert
4	O-ring
5	Bottom Cap
6	O-ring
7	O-ring
8	O-ring

1. Halt all sampling and close the pipeline isolation valve.
2. Open the drain valve on the WFS to drain any liquid present.
3. Disconnect attached tubing from the WFS and remove the WFS from the system.
4. Carefully unscrew the top and bottom caps from the casing.
5. Remove the O-rings.
6. Clean the end caps, casing, and insert with a solvent or cleaning agent, and then thoroughly dry them with a clean, dry cloth.
7. Replace the O-rings.
8. Carefully screw the top and bottom caps into the casing.
9. Carefully slide the insert into the top cap and then into the bottom cap.
10. The unit is now ready for reinstallation. Refer to section *2.2, Installation,* for instructions on installing the WFS to the system.

APPENDIX

Attached Documents

Welker® *Installation, Operation, and Maintenance* (IOM) *Manuals* suggested for use with this unit:

- None

Other *Installation, Operation, and Maintenance* (IOM) *Manuals* suggested for use with this unit:

- None

Welker® drawings and schematics suggested for use with this unit:

- Assembly Drawing: AD037LR

NOTES

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