REQUEST FOR INTERPRETATION OF 3-A SANITARY STANDARDS OR 3-A ACCEPTED PRACTICE CRITERIA

Requester(s) Name and Address:	**Standard/Practice Name and Number:**
3-A Sanitary Standards, Inc. 1451 Dolley Madison Boulevard McLean, Virginia 22101 (Resolution of Report of Alleged Nonconformance (RAN))	*3-A Sanitary Standard* #74-03, *Sensors and Sensor Fittings and Connections*
Requester(s) Telephone No.: 703-790-0295	**Criteria Paragraph Number:** D1.1 D7.1.1.3 Conformance to other references

RAN Allegations:

The RAN alleged the following five items:

1. Metal-to-metal contact creating a crevice (section D.1.1 of Standard 74-03).

2. No seal between product contact and threads (section D7.1.1.3 of Standard 74-03).

3. Sanitary fittings in product contact do not comply with 3-A Standard 63- (Sanitary Fittings). Specifically, the fitting is a type of bevel seat fitting. This would comply with the standard if the threads were ACME. Also, this would not be an issue if the threads were isolated by a gasket. (section D9.1 of Standard 74-03).

4. No Leak Detect Port, as required in drawing 74-00-15. The drawing states that there is clearance for leakage. The particular design that is the basis of this RAN is very similar to the drawing in 74-00-15. Please note that the leak detect is required to show evidence of gasket / seal failure. (Drawing # 15 of Standard 74-03).

5. No sealing gasket, as required (sections D11.1 and E1.3 of Standard 74-03).

Interpretation Committee Response:

Allegation 1: Metal-to-metal contact creating a crevice (section D.1.1 of Standard 74-03). The IC noted that this section of the standard states, that "All product contact surfaces shall have a finish at least as smooth as a No. 4 ground finish on stainless steel sheets and be free of imperfections such as pits, folds, and crevices in the final fabricated form.

Ruling: Substantiated. Reason: The IC believed that the metal-to-metal contact in this product contact surface creates a crevice where the two metal components contact one another. The standard states that product contact surfaces must not have crevices. The IC agreed that this is a

permanent crevice, since the parts joined are not designed to be demountable, and not intended to be manually cleaned on a daily basis.

Allegation 2: No seal between product contact and threads (section D7.1.1.3 of Standard 74-03). Section D7.1.1.3 states: "The threads of such assembled fittings are sealed from product contact to prevent intrusion of product, liquids, and/or microorganisms into contact with the thread." The IC assessed whether or not the intent of Standard 74-03 was to require a gasket between the threads and the product to effect the seal.

Ruling: Substantiated. Reason: The IC believed that to insure an effective seal between product and the fitting threads, a gasket must be used, especially since a leak detect port is not provided.

Allegation 3: Sanitary fittings in product contact do not comply with 3-A Standard 63- (*Sanitary Fittings*). Specifically, the fitting is a type of bevel seat fitting. This would comply with the standard if the threads were ACME. Also, this would not be an issue if the threads were isolated by a gasket. (section D9.1 of Standard 74-03).

Ruling: Substantiated. Reason: If this sensor is demountable from the fitting as required by D4.1, then there is no crevice and it is in compliance with D1.1, however, the design would then put it out of compliance with the fitting Standard 63- (incorporated in D9.1 of Std 74-). Section D3.1 of Std 63 indicates "Fittings that are to be CIP or mechanically cleaned shall be so designed. If such fittings have demountable joints, the joints shall be gasketed…" The seal between the fitting and the sensor has previously been described as a joint but not a permanent joint. This joint must be gasketed. The standard does not specify which joints shall be gasketed, so it would require all joints in product contact surfaces to be gasketed.

The 3-A Sanitary Standards attempt to provide criteria for every fabrication technique that is acceptable. If this were not done, there would be no guarantee that equipment constructed under the standard would be easily cleanable. This is the reason the Steering Committee has always maintained that if a standard was silent to a construction method, that method was not permitted. We agree with this and since this equipment construction (metal-to-metal seals) is not addressed in this document, it is not permitted to be used.

Allegation 4: No Leak Detect Port, as required in drawing 74-00-15. The drawing states that there is clearance for leakage.

Ruling: Not Substantiated. Reason: The drawing 15 only pertains to that specific type of sensor/sensor fitting. The sensor in question does not fit drawing 15, because it does not have a self-sealing diaphragm. It therefore must comply with D11.1 and not drawing #15.

Allegation 5: No sealing gasket, as required (sections D11.1 and E1.3 of Standard 74-03).

Ruling: Not Substantiated. Reason: This section indicates that dimensions and the contour of these components shown on the drawings are for reference only, but does not address other elements of the drawings. D11.1 indicates that sensors, sensor fittings and connections not illustrated are included in the standard provided they conform to the provisions herein and have no special requirements for fabrication and installation. If there are no special requirements for fabrication or installation, it appears that the written specifications are all that would apply to this sensor. If there are special requirements, this exemption does not apply.

The joint between the sensor and sensor fitting is not a permanent joint. It was indicated that this sensor is placed into the fitting at the customer's location. It is suspected that this joint between

sensor and fitting has a special torque requirement at installation because without proper fitment, the metal to metal seal might be damaged by over-tightening or incomplete due to under tightening.

If there are special installation requirements, this sensor/fitting assembly does not come under the undefined inclusion listed in D11.1 and would require a new document or additional wording to address the intricacies of this assembly.

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<tr><td>Date Received by 3-A SSI:
September 13, 2006</td><td rowspan="2">IC Chair Signature:

Randy Elsberry</td></tr>
<tr><td>Date Reviewed:
December 6, 2006</td></tr>
<tr><td>Date of Response:
December 6, 2006</td><td>Date:
December 6, 2006</td></tr>
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