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

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	Standard/Practice Name and Number:
	
	3-A Sanitary Standards for Sensor and Sensor Fittings and Connections, Number 74-03

Requester Telephone No.: 508-549-3677	Criteria Paragraph Number: Standard 74-03, Section E, paragraphs E1.2 – E2, Figures 74-00-19 & 74-00-20

Specific wording requested for interpretation:

Standard 74-03 depicts 2 mounting examples for pH/Conductivity sensors, one for vessels and one for piping. There are no maximum insertion dimensions shown, nor are there any restrictions in the text body as to dimensional projections into the process.

For purposes of primary seal leak detection, the Standard depicts a leak detection port for several sensor mounting examples, but not for pH/conductivity sensors. In the case where it is necessary to extend a pH/conductivity probe into the process as far as 14.8", what are the requirements for a leak detector port? Considering a vertical installation, what would be the effectiveness of a leak detector port external to the process when the primary seal is a significant distance away?

Additionally, Section E1.2 states "Shall be installed so that the leakage port, <u>if provided</u>, is at the lowest point." Does this mean that it is not required or has to be provided?

Supporting Comments:

A leak detection port in this application where the sensor is can be mounted in any orientation would allow external contaminants into and accumulate in the "electrode holder/mount." In the event of a failure of the primary seal, the process solution would then come in immediate contact with any external contaminants in vertical or upright installations, see attachments. (PH Sanitary clamp mount.pdf & PH DN25mm mount.pdf) .

In the situation where no leakage port exists, no contaminants would be present. If there is a failure of the primary seal there is a secondary seal to prevent leakage. The area in between the two seals is a clean zone that meets sanitary specifications. Inspection periodically of the seals during routine maintenance would be required in order to determine if the primary sealed failed.

Interpretations Committee Response:
Clause E1.2, which the requester seeks clarification on, is a subclause of E1, which specifically addresses sensor spuds for tanks. This clause refers the reader to drawings 3-A 74-00-13, 14, and 15 in the Appendix of the standard. This clause reads:

E1.2   [Sensor spuds for tanks] Shall be installed so that the leakage detection port, if provided, is at the lowest point.

This clause *does not apply* in the case of this Request for Interpretation, since the requester is seeking a ruling on leak detect requirements for pH/conductivity sensors. The clause of Standard 74-03 that applies is D12.3 (Under Nonproduct Contact Surfaces). This is the case because the area behind the primary seal is considered to be a non-product contact surface. This clause reads:

D12.3 Nonproduct contact surfaces shall have provision to drain leakage of product. If the nonproduct contact surface is insulated, the leakage shall drain beyond the insulation."

Therefore, per Clause D12.3, <u>a leak detect is required</u> (the equipment shall have provision to drain leakage of product).

The person submitting the Request for Interpretation also asks, "Considering a vertical installation, what would be the effectiveness of a leak detector port external to the process when the primary seal is a significant distance away?"

The Committee stated in reference to this, for sensor installations, anything above horizontal (i.e., vertical) with a leak detect port, would allow leakage into the product and thus would not be in compliance with the standard since there would not be a provision to "drain leakage of product."

Date Received: November 23, 2010	IC Chairperson:
Date Reviewed: January 20, 2011	Randy Elsberry
Date of Response: January 21, 2011	Date: January 21, 2011