

## 7794 Sanitary Durafet<sup>®</sup> II pH Electrodes

## Specification

### Overview

Sanitary Durafet II pH electrodes provide continuous on-line measurement with a durable, non-glass pH sensor. Solid state ISFET technology eliminates the conventional, fragile glass electrode. The Sanitary Durafet II electrode is designed to sanitary standards with compliant materials of construction.

### Description

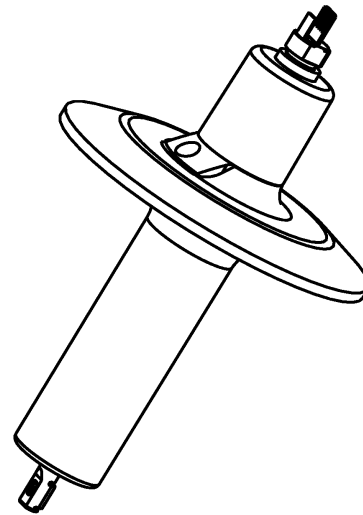
The Sanitary Durafet II pH electrode features state-of-the-art ISFET (Ion Sensitive Field-Effect Transistor) sensor technology. This virtually unbreakable electrode permits direct insertion into production equipment without fear of product contamination – unlike conventional glass electrodes.

Measurement can be on-line and continuous – no “grab” sampling is necessary. Durafet II sensors provide a low impedance pH signal with fast response, high accuracy that exhibits no sodium ion error or ORP interference.

The Durafet II pH electrode includes an integral reference electrode and automatic temperature compensator for Nernst electrode compensation. Because the electrode provides temperature correction at the source, it can be interfaced with most existing pH instrumentation permitting greater ease in upgrading existing installed systems.

### Features

- Designed to meet rigorous environmental requirements of the Food and Dairy industries.
- Authorized to use the 3-A symbol.
- Rugged – does not employ conventional glass membrane. Uses ISFET, solid state sensor.
- New “no epoxy” packaging design for greater reliability
- Waterproof quick disconnect cable reduces electrode replacement time
- Reference electrode and compensating temperature sensor integral with electrode.
- Remote mounting option for DirectLine™ sensor.
- Available signal conditioning modules make electrode output compatible with most existing pH instrumentation.
- Connection capability to standard tri-clamp fittings.
- Choice of cable lengths.
- Six (6) models available with varying flange size and immersion lengths.



### Cap Adapter

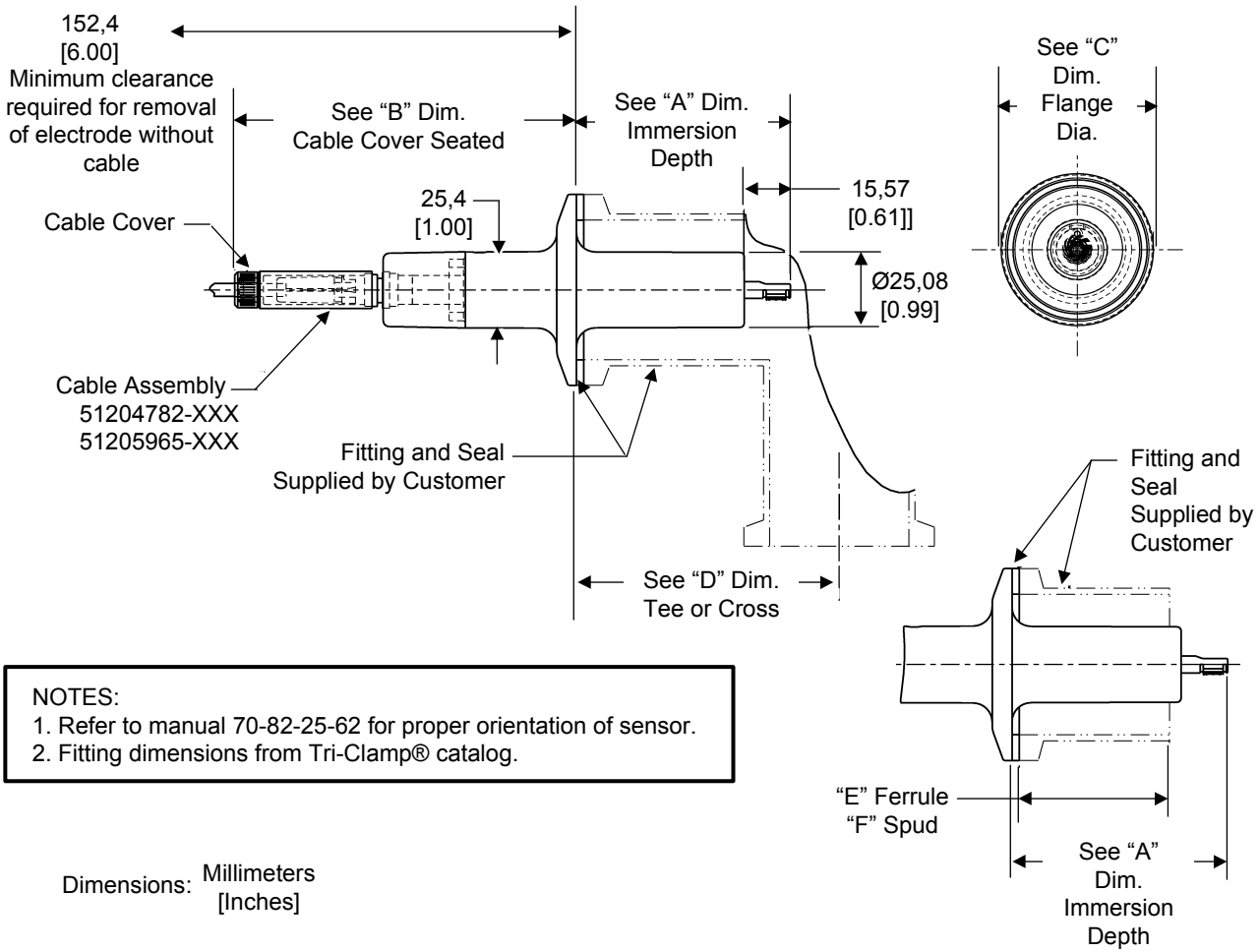
The Cap Adapter cable option is essentially a preamplifier that is an integral part of the electrode cable. It does not require separate mounting. The output from the Cap Adapter can be connected directly to a pH instrument (9782 or APT2000). It is available in lengths up to 50 feet.

### Preamplifier Module

The Honeywell Durafet II preamplifier module consists of a preamp, which operates as a signal conditioner, housed in a NEMA 6 and IP68 submersible enclosure. The preamp is powered by and provides a temperature component pH signal for all recent Honeywell pH analyzers and transmitters. Its design ensures long-term reliability under industrial conditions.

### Adapter Module

To use Durafet II electrodes with other instruments, an adapter module is required. It provides a temperature-compensated pH signal to the conventional electrode input of measuring instruments other than Honeywell. Temperature compensation must be fixed at 25 °C on the instrument.



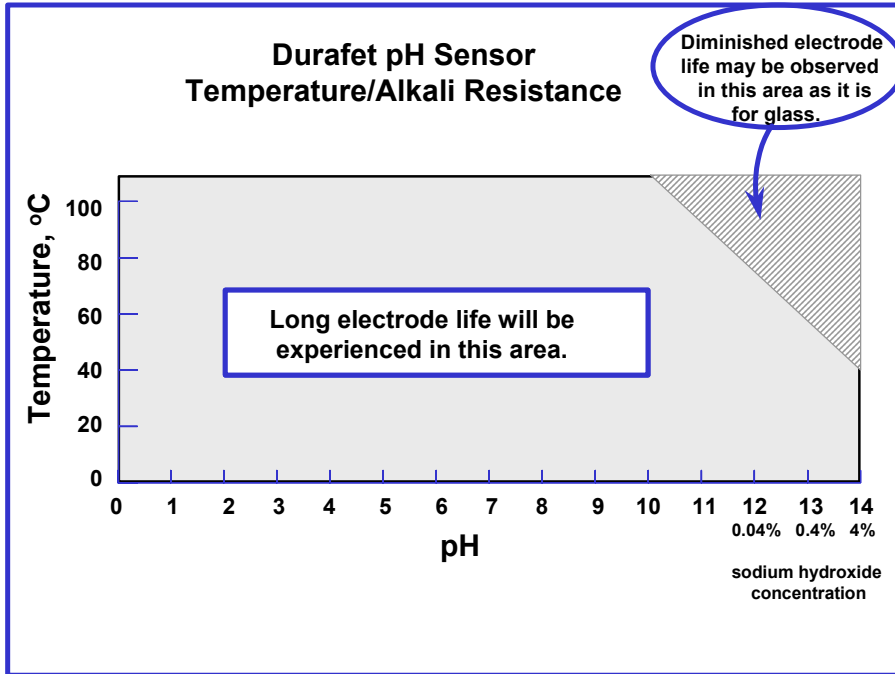
**NOTES:**  
1. Refer to manual 70-82-25-62 for proper orientation of sensor.  
2. Fitting dimensions from Tri-Clamp® catalog.

Dimensions: Millimeters  
[Inches]

Part No.	CIP Flange	"A" Dim.	"B" Dim. 51204782	"B" Dim. 51205965	"C" Dim.	"D" Dim.	"E" Dim.	"F" Dim.
51450948-001	38,10 [1.50]	58,14 [2.29]	125,98 [4.96]	153,67 [6.05]	50,39 [1.98]	69,85 [2.75]	41,40 [1.63]	76,20 [3.00]
51450948-002		73,91 [2.91]	110,24 [4.34]	137,92 [5.43]				
51450948-003	50,80 [2.00]	71,83 [2.83]	112,27 [4.42]	139,95 [5.51]	63,91 [2.52]	88,90 [3.50]	44,45 [1.75]	76,20 [3.00]
51450948-004		94,46 [3.72]	89,66 [3.53]	117,35 [4.62]				
51450948-005	76,20 [3.00]	64,26 [2.53]	120,69 [4.72]	147,57 [5.81]	90,91 [3.58]	95,25 3.75	49,20 [1.937]	101,60 [4.00]
51450948-006		94,46 [3.72]	86,61 [3.41]	114,55 [4.51]				

<b>Specifications</b>	
<b>Sanitary Durafet II Electrode</b>	
<b>Operating Range</b>	0-14 pH
<b>Operating Temperature Range</b>	-10 °C to 110 °C [14 °F to 230 °F]
<b>Sterilization Conditions (nonoperating)</b>	130 °C maximum at 50 psig
<b>Maximum Process Pressure</b>	0 to 690 kPa from -10 °C to 100 °C 0 to 345 kPa @ >100 °C 0 to 100 psig from 14 °F to 212 °F 0 to 50 psig @ >212 °F
<b>Electrode Body</b>	Polysulfone, FDA-compliant Ceramic reference junction Silicon ISFET measuring sensor Viton sensor seal
<b>Electrode Mounting</b>	Connects to standard CIP fittings, Tri-Clamp® or equivalent
<b>Electrical Connectio</b>	Screw-on multicontact connector with NEMA 4X cover
<b>Weight</b>	1-1/2": 150 g [5.3 oz.] 2": 159 g [5.6 oz.] 3": 198 g [7 oz.]
<b>Preamplifier Module—31079288</b>	
<b>Housing Material</b>	Polypropylene
<b>Connections</b>	Two 3/4" NPT female
<b>Dimensions</b>	232 mm x 11.1 mm diameter [9-1/8" x 4-3/8"]
<b>Weight</b>	0.9 kg [2 lb.]
<b>Adapter Module (31079290 and 31075773)</b>	
<b>Housing</b>	<i>31079290</i> : Molded fiberglass with stainless steel hardware. 241 mm x 184 mm x 102 mm [9-1/2" x 7-1/4" x 4"]. NEMA 4X, IP65. <i>31075773</i> : Molded fiberglass. 140 mm x 80 mm x 89.6 mm [5.514" x 3.150" x 3.527"]. NEMA 4
<b>Connections</b>	<i>31079290</i> : Two 3/4" conduit holes <i>31075773</i> : Two 1/2" conduit holes
<b>Power</b>	<i>31079290</i> : 108-132 V, 50-60 Hz, 15 VA <i>31075773</i> : 3 V lithium battery pack
<b>Weight</b>	<i>31079290</i> : 2.3 kg [5 lb.] <i>31075773</i> : 0.45 kg [1 lb.]

The Sanitary Durafet II ISFET sensor lifetime is affected by exposure to hot caustic solutions that can be present in CIP cycles of Food and Dairy applications. The following graph can be used as a guideline to determine if the Sanitary Durafet II pH electrode should be taken out of the process during the cleaning cycle. For expected lifetime at specific temperatures and caustic concentrations based on exposure time contact your local Honeywell Sales representative.



### Warranty/Remedy

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Contact your local sales office for warranty information. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace without charge those items it finds defective. The foregoing is Buyer's sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

Distributor :

For more information, contact Honeywell sales at 1-800-343-0228.

**Honeywell**

#### Industrial Measurement and Control

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