

HBD551 – Quick Change pH Sensor Series HBD Specifications

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Overview

Honeywell's HBD Series of pH electrodes are for applications with high pressure and temperature as well high and low pH ranges. They are intended for the harshest of applications where traditional glass sensors and reference electrode technology do not stand up. The HBD Series combines the superior stability and ruggedness of the Durafet sensor with a unique reference technology that resists poisoning and fouling.

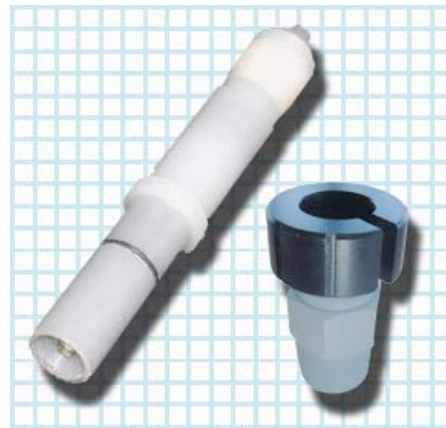
The **HBD551** is:

- a quick change pH sensor
- a pH sensor with an external nut-loc that improves safety and makes replacement easy
- ideal for sample lines and valve side-streams
- rugged, versatile and simple to use
- compatible with most industrial transmitters and analyzers

Honeywell's HBD Series of electrode mountings utilize a patented Reference Cell Technology.

The unique reference technology:

- prevents sensor poisoning
- prevent internal leaks
- prevent internal plugging
- allows extreme temperature and pressure tolerance
- allows for long life in low and high pH applications



HBD551 Electrode and Fitting

The HBD551 pH electrode is a quick change sensor.

Description

The HBD551 offers a reliable combination style pH electrode with measuring and reference electrode together with an temperature sensor in a 1-piece corrosion resistant Kynar body.

The **HBD551** pH electrodes are designed for quick-change in-line installations. The **HBD551** can also be used in submersion operations.



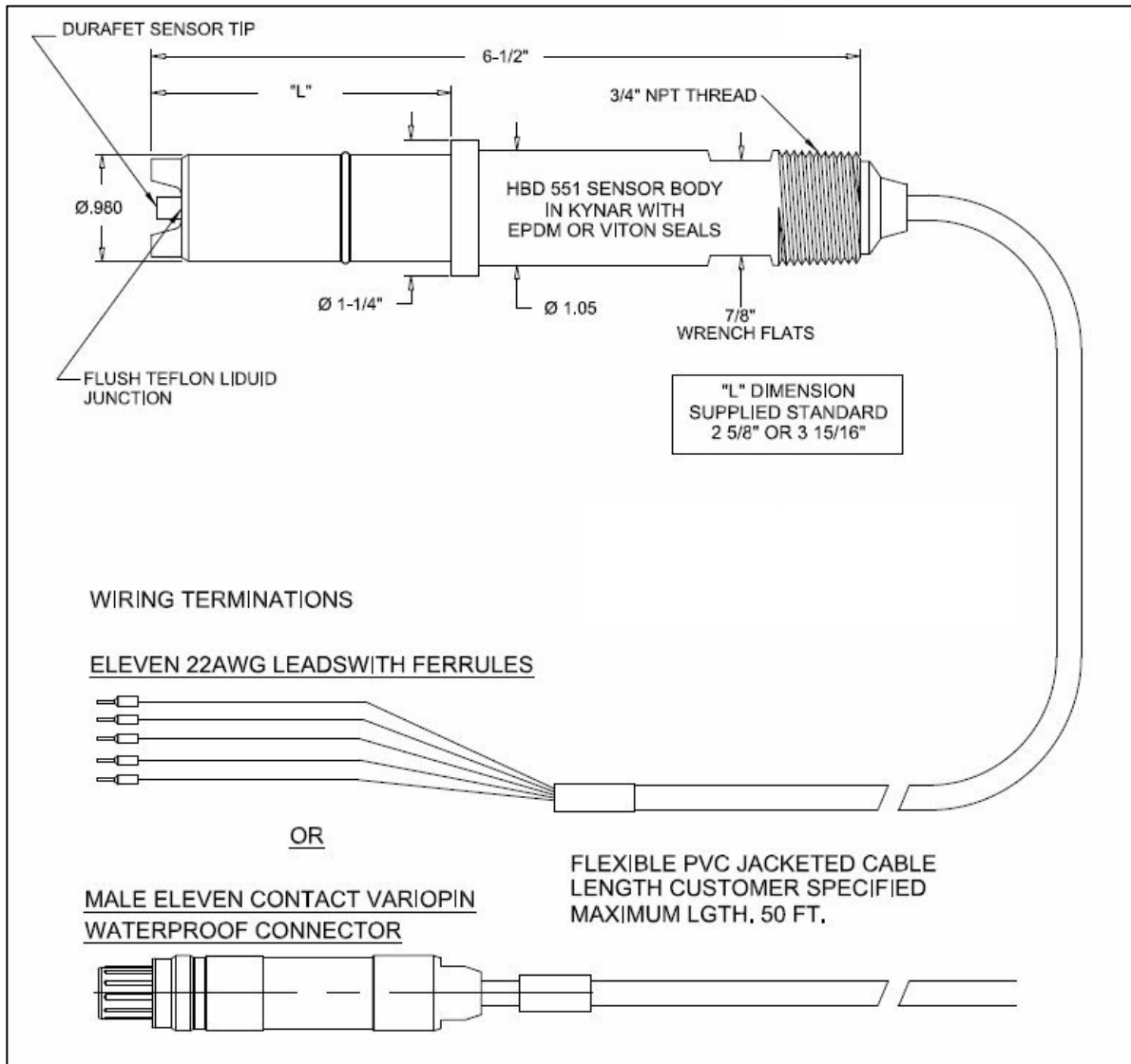
Unique Reference Technology

Like other rugged semi-solid state references, the reference is formed by a series of wood segments impregnated with KCL. The difference with the HBD Series technology is where others utilize an epoxy or impermeable barrier between each of the wood segments; the HBD Series uses a pair of formed discs.

When the two formed disc faces are positioned adjacent to one another they form a long pathway (filled with electrolyte) between each of the segments. The pathway provides a more complete transition of KCl ions between the wood segments and creates a difficult and longer distance for poisons traveling back into the reference from the process fluid.

The reference junction is made of Teflon and acts as the interface between the process fluid and the reference electrode. This is a porous surface, which passes ions between the reference and measurement fluid. The primary function is to allow very small amounts of KCl to leach from the reference and provide the millivolts necessary for pH measurement. The secondary function is to maintain a barrier between the measurement fluid and the reference so that the measurement fluid does not rapidly poison or foul the reference.

Dimension Drawings



Features HBD551 Electrode

- Non-Glass Ion Sensitive Field Effect Transistor (ISFET) pH sensor
- Rugged, virtually non-breakable
- Long lasting stability in the harshest of application environments
- ***Ideal for sample lines and valve side-streams***
- Integral automatic temperature compensator
- Chemically resistant Kynar body
- Less cleaning lowers maintenance costs
- Less frequent need for calibrations
- Great for high temperature and high pressure applications
- Can be used in both low and high pH conditions
- Utilizes an external nut-loc to improve safety
- Compatible with most industrial transmitters and analyzers
- Reduced replacement costs due to breakage and reference electrode failure
- Faster response for better process control and lower reagent usage

Specifications

Electrode	
Pressure and Temperature Rating	50 psig, 100°C 100 psig, 500°C
Operating Range	0-14 pH
Mounting	Quick-change in-line: 1" MNPT threaded adapter for installation into process, sample line or automatic cleaning system. Nut-loc retainer for quick removal and replacement.
Wetted Materials	Kynar, porous Teflon, Viton, Ryton, EPDM & Silicon
Cable Options	20 ft (6.1 m) and 50 ft (15.2 m) integral ferrule terminated leads or 10 inch integral Vario Pin connector
Temperature Sensor	8550 Ohm Thermistor, Pt1000 RTD
Weight	Approximately 0. 23 kg (0.5 lb)

Specifications are subject to change without notice.

Sales and Service

For application assistance, current specifications, pricing, or name of the nearest Authorized Distributor, contact one of the offices below.

ASIA PACIFIC

(TAC)

hfs-tac-support@honeywell.com

Australia

Honeywell Limited
Phone: +(61) 7-3846 1255
FAX: +(61) 7-3840 6481
Toll Free 1300-36-39-36
Toll Free Fax:
1300-36-04-70

China – PRC - Shanghai

Honeywell China Inc.
Phone: (86-21) 5257-4568
Fax: (86-21) 6237-2826

Singapore

Honeywell Pte Ltd.
Phone: +(65) 6580 3278
Fax: +(65) 6445-3033

South Korea

Honeywell Korea Co Ltd
Phone: +(822) 799 6114
Fax: +(822) 792 9015

EMEA

Honeywell Process Solutions,
Phone: + 80012026455 or +44
(0)1202645583
FAX: +44 (0) 1344 655554

Email: (Sales)

sc-cp-apps-salespa62@honeywell.com

or

(TAC)

hfs-tac-support@honeywell.com

NORTH AMERICA

Honeywell Process Solutions,
Phone: 1-800-423-9883
Or 1-800-343-0228

Email: (Sales)

ask-ssc@honeywell.com

or

(TAC)

hfs-tac-support@honeywell.com

SOUTH AMERICA

Honeywell do Brasil & Cia
Phone: +(55-11) 7266-1900
FAX: +(55-11) 7266-1905

Email: (Sales)

ask-ssc@honeywell.com

or

(TAC)

hfs-tac-support@honeywell.com

For More Information

Learn more about how Honeywell's HBD551 – Quick Change pH Sensors are designed for high temperature, high pressure and harsh chemical applications, visit our website www.honeywellprocess.com/analytical-instruments-and-sensors or contact your Honeywell account manager.

Honeywell Process Solutions

1250 W Sam Houston Pkwy S
Houston, TX 77042
Tel: 1-800-423-9883 or 1-800-343-0228
www.honeywellprocess.com

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