

## 5000TC Series Toroidal (Electrodeless) Conductivity Sensors

Highly-reliable, corrosion-resistant cells

*5000TC Series*

### THE FEATURES AND RELIABILITY YOU EXPECT FROM HONEYWELL

- Variety of material types to meet most application needs – PEEK, PFA Teflon®, PVDF, and Polypropylene.
- Increased cell reliability due to high chemical resistance and low friction factor in the materials of construction
- Flexibility of installations with four mounting types – Immersion, Union-mount, Insertion/Removal, and Sanitary
- Temperature compensated measurement with Pt1000 ohm RTD
- Convenient for most applications – 20 ft. cable standard
- 3A-approved materials of construction and CIP (clean-in-place) fitting makes the sanitary type cells suitable for most sanitary applications



*Convertible Style*



*Sanitary Style*



The Honeywell 5000TC toroidal (electrodeless) conductivity sensors measure the conductivity of solutions from 0.2 to 2000 milliSiemens/cm. The sensors can also be used for monitoring chemical concentration as well as salinity. The corrosion and fouling-resistant probes are available with a variety of mounting assemblies to ensure compatibility for applications in the chemical, food and dairy, refinery, pulp and paper, metal finishing and wastewater industries.

### SPECIALLY-DESIGNED FOR TOUGH APPLICATIONS

The Honeywell 5000TC sensors are specifically designed for the monitoring of conductivity, chemical concentration, or salinity in difficult applications where coating, fouling, corrosion, or high temperatures/pressures are a concern. The sensor's 1½-inch diameter bore minimizes rough surfaces to ensure that flow impedance is minimized. A 1000Ω Platinum RTD provides accurate temperature measurement to ensure proper temperature compensation. Two types of basic sensor forms are available with the Honeywell 5000TC – the convertible or the sanitary style.

### CONVERTIBLE STYLE

The 5000TC convertible style toroidal sensor includes both a ¾-inch and a ½-inch fitting to allow direct fastening to the end of a pipe for either immersion mounting or a union-mount adapter for a standard 2-inch pipe tee. The convertible style can also be insertion mounted into a 2-inch ball valve assembly.

### SANITARY STYLE

The 5000TC sanitary style toroidal sensor includes a clean-in-place style fitting and is constructed of 3A-approved materials. It has an integral 2-inch sanitary-mount flange which mates to Honeywell sanitary tee mounting hardware. The sanitary-style sensor includes a special cap and EPDM compound gasket. The gasket is also available separately for mounting to a 2-inch sanitary clamp-type ferrule or butt-weld tee.

## A VARIETY OF MOUNTING TYPES

The 5000TC sensors are available with a number of different mounting types. These include immersion mounting (CPVC or PVDF materials, also PVC junction box), union mounting (316 SS, CPVC or PVDF materials with optional 2-inch tee), sanitary mounting (316 SS 2-inch tee with heavy-duty clamp), or insertion/removal mounting (316 SS or CPVC material).

## CHEMICAL COMPATIBILITY ISSUES MINIMIZED

To simplify chemical resistance problems, these sensors are constructed so that only one material is wetted by the process. The wetted material is non-conductive to insure that the sensor is electrically isolated from the process fluid. Convertible sensors are available in PEEK, PVDF, PFA Teflon®, and Polypropylene materials. Sanitary sensors are available in PVDF, PFA Teflon®, and Polypropylene materials.

®Teflon is a trademark of DuPont

## WORKS WITH HONEYWELL'S APT2000 TC TRANSMITTER

All 5000TC cells work with the APT2000 Toroidal Conductivity process transmitter from Honeywell. This two-wire, loop-powered transmitter is designed to continuously measure conductivity, chemical concentration and salinity in industrial processes within the chemical, food and dairy, pulp and paper, refinery, and metals industries.



## SENSOR SPECIFICATIONS

Wetted Materials	PFA Teflon®, Polypropylene, PVDF, or PEEK
Operating Temperature Range	10 to 125°C (14 to 257°F)
Maximum Flow Rate	10 ft. (3 m) per second
Measuring Range	0.2 to 2000 milliSiemens/cm
Temperature Compensator	Pt 1000Ω RTD
Sensor Cable	5 conductor (plus two isolated shields) cable with XLPE (cross-linked polyethylene) jacket; rated to 150°C (302°F); 20 ft. (6 m) long
Bore Size	1.5-inch diameter, 0.4-inch hole

### PRESSURE/TEMPERATURE LIMITS:

Sensor Only (no hardware)	Polypropylene	100 psi at 212°F (6.9 bar at 100°C)
	PVDF	100 psi at 248°F (6.9 bar at 120°C)
	PEEK	200 psi at 302°F (13.8 bar at 150°C)
	PFA Teflon®	200 psi at 302°F (13.8 bar at 150°C)

For more information on Honeywell's 5000TC toroidal (electrodeless) conductivity sensors, as well as the Honeywell APT2000 TC Series transmitter and other

analytical products, contact your local Honeywell representative, or call 1-800-343-0228. Visit our website at: [www.honeywell.com/sensing](http://www.honeywell.com/sensing).

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