

# Foxboro® EP402 Series: Electrodeless Conductivity Assemblies

Small-Bore Flow-Through



## Model EP402 Series Description

Foxboro® EP402 Series small-bore flow-through assemblies are designed to be utilized with an electrodeless large bore PEEK sensor to provide a full-range conductivity measurement of any process solutions encountered. Examples of commonly encountered applications include NaOH, NaCl, HCl, H<sub>3</sub>PO<sub>4</sub>, KCl, KOH, and others where standard sensor mountings are impractical, or where quite low, often single-digit conductivity is desired (e.g., condensate).

The ability to select from a long list of wetted materials (e.g., end connection, bore piece, and O-ring) permits the EP402 Series units to be tailored to the specific conductivity application at hand.

For example, select from Hastelloy C, titanium, C-20, 316 ss, and other metals for either threaded or triclamp end connections. Select from glass-filled PEEK, glass-filled Teflon, or PVDF, PCTFE, and other thermoplastics for the appropriate bore piece. And from EPDM, Viton, Kalrez, or Chemraz O-rings for whatever your applications require.

A choice of small bore sizes, for example, 1/4", 3/8", 1/2", and 5/8" permits the measurement of very low-flow conductive fluids.

The available small bore sizes also help prevent flashing in higher-temperature low-conductivity applications, such as condensate.

Use any EP402 with the appropriate range 871EC large-bore PEEK sensor, e.g., 871EC-LBO for low-conductivity.

## Summary

The Foxboro EP402 Series small-bore flow-through assemblies when used with a Foxboro electrodeless large bore PEEK sensor provide a full-range conductivity measurement of any process solutions encountered.

## Business Value

The Foxboro EP402 Series Sensors provide a totally non-invasive measurement of conductivity, significantly reducing the influence of coatings and deposits on conductivity measurements. The non-invasive modular design permits ease of installation as the EP402 sensor becomes a section of the process line, allowing for dramatic savings in lost product and provides significant savings in maintenance time.

# EP402 Electrodeless Conductivity Assemblies

## Small-Bore Flow-Through



### Features / Benefits

- A noninvasive conductivity measurement method for very small line sizes
- Selectable metal and thermoplastic wetted housing materials
- Selectable wetted O-ring materials
- Choice of several bore sizes to most closely match the required application line size
- Use of the appropriate large bore PEEK electrodeless sensor provides a full conductivity range suitable for all applications

### EP402 Electrodeless Series

<b>Conductivity Range:</b>	Minimum full scale 50 microsiemens/cm; (can measure from 10 microsiemens/cm and up) maximum full scale 2000 millisiemens/cm
<b>Temperature Range:</b>	0°–175°C (material-specific, linear de-rating — contact Foxboro)
<b>Pressure Limit:</b>	150 psi (material-specific, linear de-rating — contact Foxboro)
<b>Process Wetted-Material:</b>	Selectable metal end connection, thermoplastic bore piece, and O-ring materials including metals — 316 ss, 304 ss, C-20, Hastelloy C-276, Monel, titanium, etc.; and thermoplastics — PVDF, PCTFE, PEEK, and glass-filled Teflon, etc.; and O-ring — Chemraz, Viton, Kalrez, or EPDM
<b>Cable:</b>	20 foot (std.) integral to the 871EC large-bore PEEK sensor assembly (longer lengths optional)
<b>Sensor:</b>	Typically either the 871EC–LBO (low conductivity) or 871EC–REO (order 871EC sensor separately from EP402)
<b>Analyzer/Transmitter:</b>	Function with the 876EC intelligent transmitter, 875EC intelligent analyzer, or 873EC analyzer

### Ordering Information

Construct your model code by selecting the materials most appropriate for your electrodeless conductivity application, with the right code number or letter for each choice. Here, the first part of the code would be EP402. Then select a choice from A–D for Bore Size; from 2–8 for End Connection Metal; from A–G for Bore Material; from 1–7 for End Connection Form; from C–D for Temperature Element; and from 1–4 for O-Ring Material. Example — EP402C3A2T2.

Bore Size	Temperature Element	End Connection Meta	End Connection	Form O-Ring Material	Bore Material
A 0.250 inch bore	A PEEL, glass-filled	C NO RTD	2 Hastelloy C-276	1 Tri-Clamp	1 Chemraz
B 0.375 inch bore	B PVDF	T 100 QRTD (2-wire)	3 316 ss	2 1/2 inch NPT	2 Viton
C 0.500 inch bore	C Teflon	R 1000 QRTD (2-wire)	4 Titanium	3 1/2 inch NPT	3 EPDM
D 0.625 inch bore	D Virgin PVDF	D 100 QRTD (4-wire)	5 Monel	7 1/2 inch NPT	4 Kalrez
(For larger lines, see 871FT)	E PCTFE (aka KEL-F)		6 C-20		
	F Virgin PEEK		7 316 L		
	G Glass-filled Teflon		8 Hastelloy B		

Foxboro  
 38 Neponset Ave., Foxboro Massachusetts 02035 USA  
 Toll free within USA: 1-866-746-6477  
 Global: +1-508-549-2424  
 www.fielddevices.Foxboro.com

Life Is On

**Foxboro**  
 by Schneider Electric