

## In-situ Dilution Probes, EPM 300 Series

Wet basis, dilution extractive probes for continuous emissions monitoring



### Key Features

- Sample pump is not required for sample lines less than 300 feet
- Diluted sample is transported at positive pressure
- Heated sample line is typically not required
- Dilution of sample promotes filter longevity and reduces maintenance
- Easy in-situ calibration of total dilution system

The Thermo Scientific In-situ Dilution Probes, EPM 300 Series are designed for wet basis measurement using dilution extractive technology. The critical functions performed by the Series EPM 300 prepare the sample from the stack so that it can be accurately and precisely measured by the analyzer.

Using an air-driven aspirator, the system extracts the sample from the stack. The sample then passes consecutively through a coarse filter, a fine particulate filter, and a glass or quartz critical orifice. Lastly, the sample is diluted with air from the aspirator, creating positive pressure in the sample line as it prepares for transport to the analyzer.

This dilution process reduces the dew point of the stack gas to below that of the ambient air. The processed sample can then be transported to the analyzer up to 300 feet via an unheated sample line. (Heated sample lines may be required for low temperature applications.) In addition, a sample pump is not required for sample lines less than 300 feet which helps to reduce costs and increase up-time.

The critical orifice determines the flow rate with which the sample is extracted from the stack. The EPM 300 Series offers a selection of three different orifice materials, including 7 glass, 5 quartz or 5 Monel orifices, all of which permit easy exchange to accommodate different dilution ratio requirements. The process of sample dilution, as utilized by the EPM 300 Series, promotes the filter longevity and reduces maintenance.

In-Situ calibration is easy with the EPM 300 Series Probe. The calibration gas is supplied via the umbilical cord to the stack mounted probe. Then, calibration gas enters the probe and is diluted at the same dilution ratio as the sample from the stack. The calibration line is also used to provide blow back air to the coarse filter for cleaning purposes.

Heater mantles are available for all EPM 300 Series probes. Options include either stainless steel or Hastelloy, 110V or 220V, and lengths of four or eight meters.

# In-situ Dilution Probes, EPM 300 Series

To maintain optimal product performance, you need immediate access to experts worldwide, as well as priority status when your air quality equipment needs repair or replacement. We offer comprehensive, flexible support solutions for all phases of the product life cycle. Through predictable, fixed-cost pricing, our services help protect the return on investment and total cost of ownership of your Thermo Scientific air quality products.

## Product Specifications

### EPM Model 302

Furnished with bolted support flange 46mm (1-7/8") diameter and four threaded mounting holes. Maximum temperature 752°F (400°C). Probe length 310mm (12-1/5"), diameter 27mm (1-1/12"). Available in Stainless Steel, Inconel & Hastelloy.

### EPM Model 302C

Coated with HALAR. Is used in very wet and corrosive environments. HALAR is a fluoro-polymer which prevents pitting of the material. Maximum temperature 300°F (148°C).

### EPM Model 303

Furnished with 7/8" G threaded end.

### EPM Model 303C

Coated with HALAR and threaded end piece.

### EPM Model 305

Similar to the Model 302 but designed for high temperature applications. Maximum temperature 111°F (600°C). Requires Quartz orifice with ball-joint mounting end.

### EPM Model 306

Similar to Model 303 but designed for high-temperature applications. Requires Quartz orifice with ball-joint mounting end.

### Critical Orifices

Nominal Flow ml/min	Dilution Ratio		Glass	Quartz
	Min	Max.	Part #	Part#
20	215:1	350:1	2126.064	N/A
50	95:1	150:1	2126.047	N/A
100	44:1	75:1	2126.044	2126.057
150	32:1	50:1	2126.045	2126.058
200	27:1	37:1	2126.046	2126.059
250	20:1	30:1	2126.048	2126.060
500	12:1	16:1	2126.049	2126.061

### Umbilical Cord

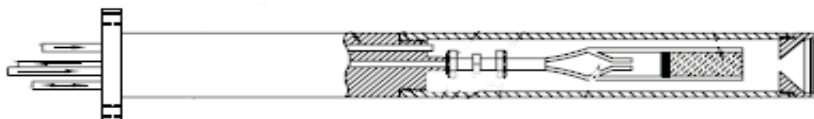
Connects probe to control panel. Consists of 4-1/4" lines, strain relief cord and flexible mantle. Maximum recommended length is 300 feet.

### Welding Adapter

Allows extension of probe to any desired length with appropriate extension pipe. *(Sold separately)*

0040.260	Standard welding adapter
	For 1-1/4" schedule 10 seamless SS pipe
0040.261	For 1 -1/4" schedule 40 seamless SS pipe
0040.262	For 1 -1/4" schedule 80 seamless SS pipe
0040.263	For 1 -1/2" schedule 160 seamless SS pipe
0040.270	For 1 -1/4" schedule 10 seamless SS pipe

Simplified Probe Assembly



This specification sheet is for informational purposes only and is subject to change without notice. Thermo Fisher Scientific makes no warranties, expressed or implied, in this product summary. © 2009 Thermo Fisher Scientific, Inc. All rights reserved Thermo Fisher Scientific, Inc.

This product is manufactured in a plant whose quality management system is ISO 9001 certified.

**Environmental  
Instruments Division**  
Air Quality Instruments

27 Forge Parkway  
Franklin, MA 02038 USA

(866) 282-0430  
(508) 520-0430  
(508) 520-1460 fax

[www.thermo.com/air](http://www.thermo.com/air)

Lit\_EPM300AQI\_07/09

**Thermo**  
SCIENTIFIC