



Environmental Sensors Co.

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Formaldehyde Meter w/Pump Z-300P

- High Resolution (0.01)
- Easy to Use
- Direct Reading
- Internal Pump
- Rechargeable Battery
- High Accuracy
(Sensor Technology tested for indoor air quality by the Japanese Ministry of Health)



Formaldehyde Meter Model Z-300P

INTRODUCTION

Environmental Sensors Company's Z-300P Formaldehyde Meter is a desktop instrument that measures formaldehyde concentration in a **range of 0-30 ppm** with a **resolution of 0.01 ppm**. The instrument makes it possible to monitor formaldehyde vapor in air, for the purpose of indoor air quality, air monitoring while performing operations using formaldehyde, or air monitoring in industrial environments.

The Z-300P is an addition to the Z-300 and the Z-300DL (Data Logging) series of instruments. This new model makes use of the sensor and filter technology employed by the Z-300P. The sensor technology has been tested and used for high resolution indoor air quality measurements, by the Japanese Ministry of Construction. With the addition of a pump, all manual operating procedures (filter changes), during the measurement process have been completely eliminated.

Z-300P SPECIFICATIONS

Sensor Technology	Electrochemical Sensor w/Chemical Filter
Nominal Range	0-30 PPM
Resolution	0.01 PPM
Measurement Time	3 min. normal conditions
Repeatability	0.015 PPM
Base Line Range	0.01 PPM
Zero Drift	<0.002 PPM/min.
Sensitivity Loss	<10 %/year
Operating Temperature	0-40° C
Pressure Range	Atm 10%
Relative Humidity	15-90%, non-condensing
Alarm	Audible beeps, ~80db
Dimensions	7.5" x 5.75" x 2.75"
Weight	900 gms
Power Source	Internal Rechargeable Battery or AC Adapter

THEORY OF OPERATION

The sensing element of the instrument is an electrochemical cell. The cell is a four-electrode type, which contains a working and an active auxiliary electrode. The signal from the auxiliary electrode is used for temperature compensation and to improve the selectivity of the entire sensor. The sensor response is linear with the concentration of formaldehyde in air.

INTERFERENCES

Some representative examples of the common compounds and the corresponding signals they give are shown below. Care needs to be exercised about using this instrument in the presence of large concentrations of interfering gases. Contact the manufacturer if difficulties are suspected with other gases, or with other usage problems.

In addition variations of the baseline, resulting from varying concentrations of compounds other than aldehydes or ketones, during the course of the measurement (about three minutes), can impact the reading.

Z-300P Formaldehyde Meter **Cross-Sensitivity Data**

<u>Gas</u>	<u>Sensor Interferences</u> <u>% of Form., ppm</u>	<u>Interferences After</u> <u>Use of Filters</u>
Acetone	2	2
Methylethyl Ketone	2	0
Diethyl Ketone	2	2
Acetaldehyde	12	0
Acetic Acid	0	0
Ethylene	67	0
Methanol	125	0
Ethanol	55	0
I-propanol	44	0
Carbon Monoxide	40	0