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**Calibration Specification for Volatile Organic Compounds Photo
Ionization Detectors
(English Translation)**

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VOC photoionization detector calibration specification

1 Scope

This specification is applicable to the detection of air (non-mine operating environment)

VOC concentrations of volatile organic Compound photoionization detector calibration.

2 Overview

VOC photoionization detector (hereinafter referred to as the instrument) works. photoionization (PID) is the use of a 10.6eV (or 11.7eV) photon energy of the UV lamp as a light source, this high-energy UV radiation can make the air in almost all organic and inorganic ionization part, but still maintain the air basic ingredients N₂, O₂, CO₂, H₂O and CO, CH₄ is not ionized (ionization potential of these substances is much higher than 10.6eV or 11.7eV), the test substance into the ionization chamber, by UV light exposure, the original stable molecular structure is ionized, producing Students positively charged ions and negatively charged electrons, under the influence of positive and negative electric field, weak current, a large current is detected formed Small, we can know the content of the substance in the air.

Instruments mainly by the sampling system, photoionization section and display components.

Unless know exactly what kind of gas is detected, the instrument detected concentration is generally displayed showing the detected all Total VOC content, expressed in VOC.

3 Metrological characteristics

3.1 Measuring range

Mole fraction X (VOC). 0 ~ 2000 x 10⁻⁶.

3.2 Indication error Tolerance limit. ± 10% FS.

3.3 Repeatability

The relative standard deviation should not exceed 3%.

3.4 Response Time

Response time ≤ 20s.

3.5 Drift

3.5.1 Zero Drift

Instrument zero drift should not exceed one half of the allowed error limits.

3.5.2 Span drift

Instrument span drift should not exceed the tolerance limit of one-half.

Note: Due to calibrate the instrument and not only the instrument for determining eligibility or not, so that the above requirements are for reference only.

4 calibration conditions

4.1 Environmental conditions

4.1.1 Ambient temperature. (0 ~ 40) °C.