

Detector Tube

CO₂-100/a

Part No.: D7086909

KWIK[®]DRAW
UNIPHOS

Instructions for Use

1 Application

Detection of carbon dioxide (CO₂) in air or technical gases.

2 Detector Tube Sampling Pump

Kwik-Draw Pump, Gas-Tester II H, or other suitable detector tube pumps.

Observe respective instructions for use.

3 Measuring Range

100 ppm ... 3000 ppm carbon dioxide at n=10 (10 strokes).

4 Chemical Reaction and Color Change

Reaction of carbon dioxide with hydrazine. Change of pH-value causes color change of an acid-base-indicator.

Color change: white → blue

5 Sampling Procedure

- Check detector tube pump for leakage.
- Break off both ends of the tube
- Insert detector tube tightly into pump.
Kwik-Draw pump, Gas-Tester II-H : Arrow on tube must point toward the pump.
- Perform 10 pump strokes.
- Read concentration at end of color zone within 2 minutes after sampling.
- Used detector tubes can not be used repeatedly.
- Duration of one pump stroke : 30...40 seconds.

6 Ambient Conditions During Sampling

- Detector tubes can be used without compensation of the reading between 0°C and 40°C (32°F and 104°F) and between 10% rh [0.5 g/m³ at 0°C (32°F)] and 90% rh [46 g/m³ at 40°C(104°F)].
- Pressure compensation: multiply reading (in ppm) with compensation factor F.

$$F = \frac{1013(\text{mbar})}{\text{actual atm. pressure (mbar)}} = \frac{760(\text{mmHg})}{\text{actual atm. pressure (mm Hg)}}$$

7 Interferences and Cross Sensitivities

No interference from:

- hydrogen, methane, ethane, propane, butanes, carbon monoxide.
- higher saturated hydrocarbons (e.g. hexanes, octanes), olefinic hydrocarbons (e.g. ethylene), aromatic hydrocarbons (e.g. benzene) up to 1% vol.
- sulfur dioxide, hydrogen sulfide, nitrogen dioxide, hydrogen chloride and other acidic gases up to 100 ppm.
- ammonia up to 100 ppm

8 Overall Uncertainty

Upto ±15 % in the range above 1000 ppm.

Upto ±25 % in the range 500 ppm...1000 ppm.

(Expressed as relative standard deviation).

9 Storage and Transport

Upto 25°C (77°F) and protected from light. Expiration date: see back of package.

10 Safety Advice/Disposal

Fortubes contents the following indications of danger apply: R 21/22-34.

Safety advice S: 2–24/25-26-28 (water).

Tubes must be kept away from unauthorized persons. For disposal as waste observe the legal regulations applicable in the individual country of use.