

KITAGAWA

NICKEL CARBONYL LENGTH-OF-STAIN DETECTOR TUBES

PERFORMANCE :

Measuring Range : 20 - 700 ppm
 Sampling Time : 3 minutes (1 pump stroke)
 Color Change : Pale Yellow - Purplish Black
 Sensing Limit* : 10 ppm

*The minimum detectable concentration although not precise.

**FLOW CONTROL ORIFICE IN THE PUMP SHOULD BE REMOVED BEFORE SAMPLING.

SAMPLING AND MEASUREMENT:

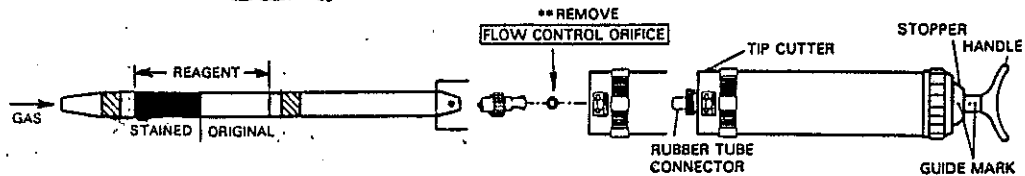


Fig. 1

1. Break tips of a fresh detector tube by bending each tube end in the tube tip cutter and then insert the end of the detector tube marked with red dot, securely into pump inlet as shown in Fig. 1.
2. Use of Model 400 aspirating pump;
Align the guide marks (red points) on shaft and back plate of the pump. And pull the handle at a full stroke and lock it with 1/2 turn (90°). Wait 3 minutes as it is.
Use of Model 400A or APS aspirating pump;
Align the guide marks (red points) on shaft and stopper of the pump. And pull the handle at a full stroke. Wait 3 minutes as it is.
3. Remove the detector tube from the pump inlet on the completion of the sampling. Position boundaries between the reagent and glass grain on the line "O" and "X" of concentration chart and read the concentration with the top "C" of length of stain.

SPECIAL NOTE:

When the top of the discolored layer "C" is colored obliquely, read the concentration at the center between the longest and the shortest points of the discolored layer. The total stain length should be read regardless of color variations.

TEMPERATURE CORRECTION:

No temperature correction is necessary at the temperature of 0°C (32°F) to 40°C (104°F).

INTERFERENCES:

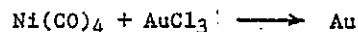
More than 10 ppm of Hydrogen sulfide produces brown stains, Sulfur dioxide changes pale blue stains and coexistence with Nickel carbonyl respectively gives higher readings. Iron carbonyl, more than 10 ppm of Arsine or Mercury vapor produce similar stains and coexistence with Nickel carbonyl respectively give higher readings. Coexistence of more than 1,000 ppm of Carbon monoxide or more than 3 % of Acetylene with Nickel carbonyl respectively give higher readings.

HAZARDOUS PROPERTY OF NICKEL CARBONYL:

T.L.V.*** : 0.05 ppm

***Threshold Limit Value established by the American Conference Governmental Industrial Hygienists, 1984.

CHEMICAL REACTION IN THE DETECTOR TUBES:



BEFORE TESTING THE PUMP SHOULD BE CHECKED FOR PROPER PERFORMANCE.
 LEAKAGE OF AIR WILL AFFECT ACCURATE READINGS.