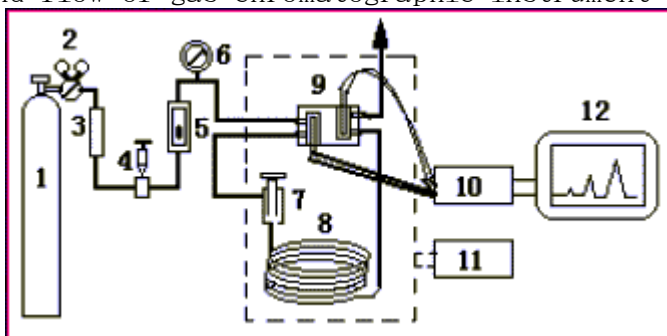


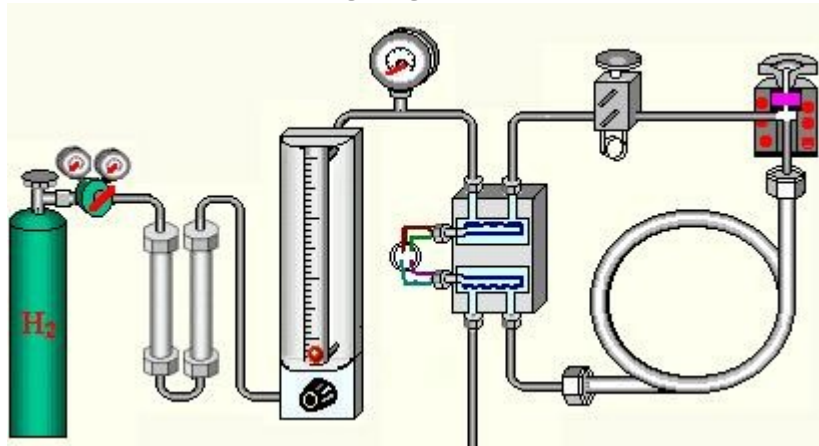
§5.2.1 Configuration and flow of Gas chromatograph

I - Terms of Titrimetric Analysis

We advise you going into lab of chromatograph at any moment when you study this section. The major part and flow of gas chromatographic instrument are



shown in the following figure.



1-Carrier gas cylinder; 2-

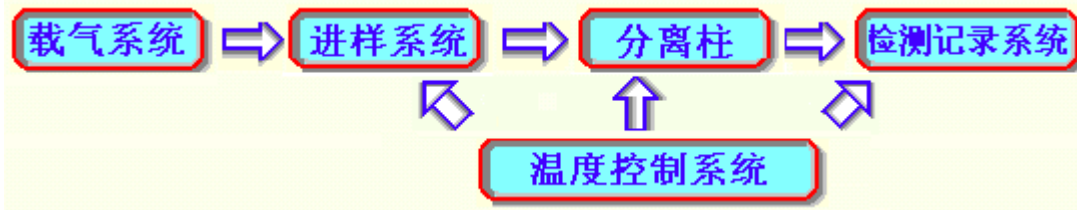
Pressure regulator; 3-Drying tube for purification of gas; 4-Needle valve; 5-Flow meter; 6-Pressure gauge;

7-Sample gasified system; 8-Separation column; 9-Thermal conductivity detector; 10-Amplifier; 11-Temperature controller; 12-Recorder

Carrier gas can be adjusted to proper pressure by pressure regulator, and then it flows through drying tube to wipe off impurities. At last the flux is modulated through needle valve, at the same time flux is shown by flow gauge and pressure is shown through pressure regulator.

First, carrier gas passes reference arm of detector, then goes into separation column flowing through gasified chamber (liquid sample quickly gasifies there, and being brought into separation column under carrier gas). The effluent goes into test arm of detector and then gives out to the air. The signal obtained by thermal detector is amplified by amplifier, and then protracted by recorder. The computer can accomplish many work such as parameter regulating and controlling system of new type chromatograph, computing and graph protracting etc.

GC is composed of the following major parts:



1. Carrier

gas system: gas cylinder, pressure regulator, drying tube; 2. Sample injection system: sample injector and preheater;

3. Chromatographic column: packed column(packed with stationary phase) or capillary column(inner wall lined with stationary liquid);

4. Detector: dozens of detectors, most widely used detectors is thermal conductivity detector or flame ionization det 5. Recorder: amplifier, recorder, integrator; 6. Temperature controller: controlling the temperature of column, gasified chamber and detector. **Separation column is the core of chromatographic instrument.**

Outline of this page: Configuration and flow of Gas chromatograph, major components, the key parts and function of Thinking subject: Which part of chromatograph is directly related to the sensitivity of chromatograph? Thinking subject: Which material can be used as stationary phase of chromatograph?