



## High Performance Liquid Chromatography

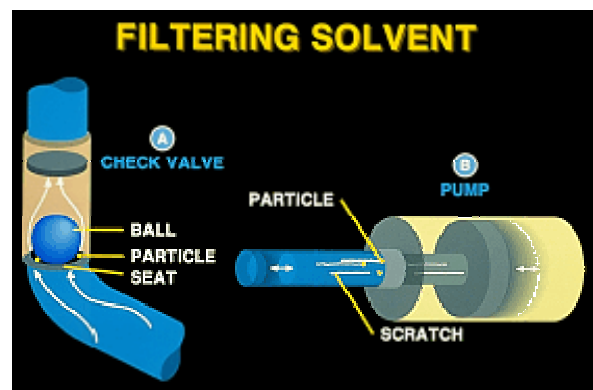
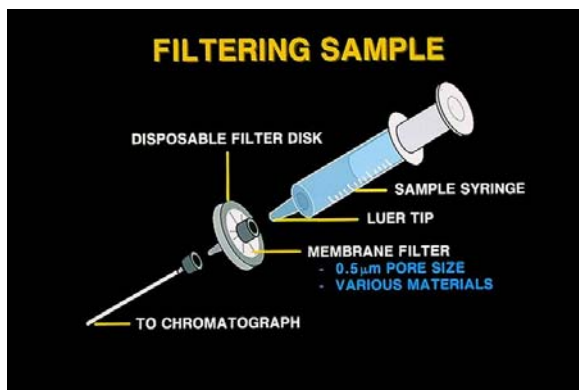
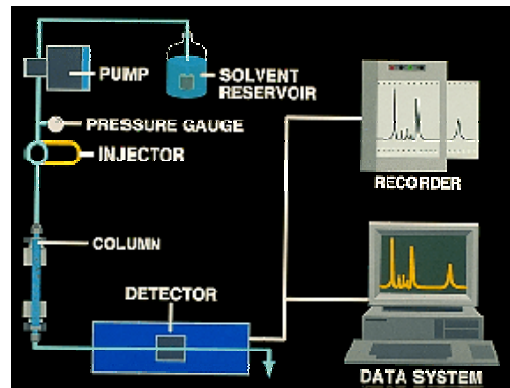
Video-based training programs

### Principles of High Performance Liquid Chromatography

LC-101

Provides a basic overview of modern HPLC written for the worker at the beginning to intermediate level. LC is first defined in relation to chromatography in general. Performance parameters are explained and illustrated with real chromatograms. Instrumentation is discussed generically including pumps, sampling valves, column packings, detectors, recorders and integrators. A review includes a section on advantages and limitations.

45 Minutes

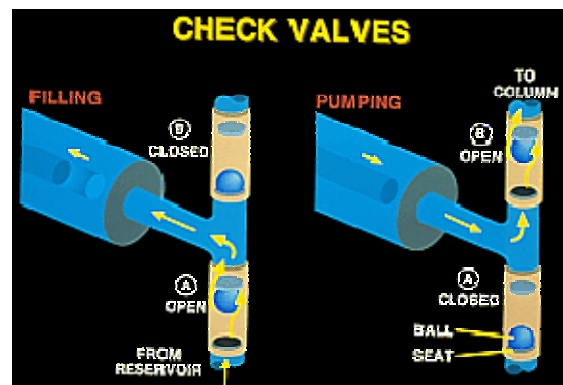


### Instrumentation for High Performance Liquid Chromatography

LC-102

This program defines all the components of an HPLC system and the characteristics of each. The function of solvents and pumps, including reciprocating piston, diaphragm and syringe are explained. Other subjects include: Isocratic and gradient elution, sample injection, autosamplers, pre-columns, guard columns, Microbore columns and detectors. Conventional recorders, advanced printer plotter integrators and PC work stations are also discussed.

47 Minutes

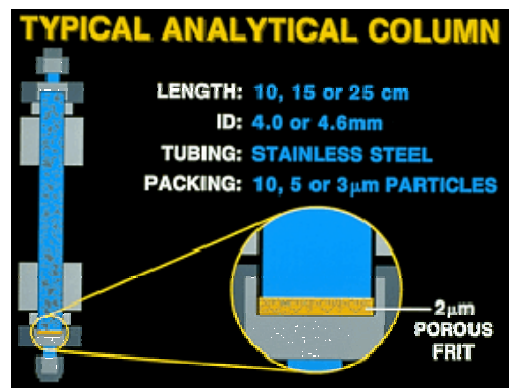


## Column Selection in High Performance Liquid Chromatography

### LC-103

By helping the worker select the proper column for an application, this training program can save hours of trial and error in the lab. It gives a systematic approach to selecting a column based on sample properties such as molecular weight, solubility and ionic or polar character. Individual types of columns are discussed, including physical and chemical characteristics and column mechanisms. Specific types covered are: Liquid/Solid Adsorption (silica gel) and Bonded Phase (normal and reversed). Ion exchange (including IC) and Size Exclusion packings are explained and illustrated. Acronyms, such as LSC, LLC, BPC, IEX, IC and SEC are explained in full.

45 Minutes



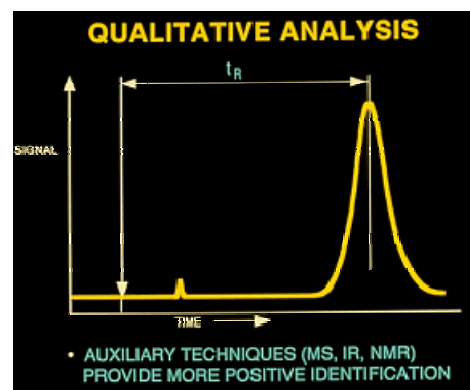
## Qualitative and Quantitative Analysis by High Performance Liquid Chromatography

### LC-104

This program is highly applications-oriented. The qualitative section deals with various methods of performing peak identification. These include matching of retention times, "spiking" and use of auxiliary spectroscopic techniques such as UV, MS, IR and NMR.

The quantitative portion begins with a discussion of precision and accuracy, then details the steps in a quantitative HPLC procedure: sampling, sample preparation, chromatography, integration and calculations.

41 Minutes



## Troubleshooting the Liquid Chromatograph

### LC-105

**Part 1** discusses operating principles. Attention is directed to common malfunctions and associated symptoms. 27 Minutes

**Part 2** emphasizes precautions and operating procedures needed to keep columns in good working order. Also covered are practical procedures for restoring damaged or contaminated columns. 21 Minutes

**Part 3** uses chromatograms to diagnose instrument problems. Twelve common symptoms are discussed including poor resolution, distortion of peak shape, noisy baseline and drift. Possible causes are given together with appropriate corrective action. 25 Minutes

