

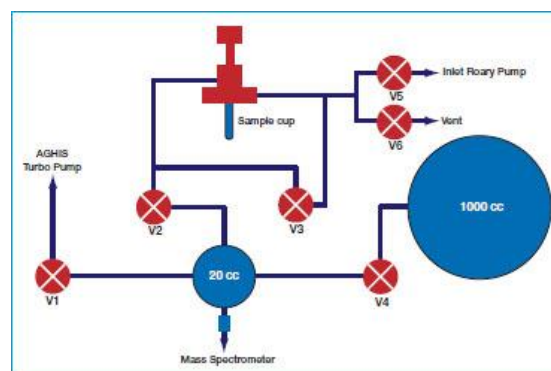


AutoConcept Petroleum is the standard Autoconcept with All Glass Heated Inlet System (AGHIS). The AGHIS is essential for analysis as per the ASTM methods ensuring that the entire sample is vaporized and admitted to the mass spectrometer at a constant rate. In order to ensure that there is no sample decomposition due to the sample coming into contact with a reactive surface (e.g. metal), the sample introduction container is made totally from glass. .

The Autoconcept Petroleum Instrument is usually configured with the Gas Chromatograph and a high temperature probe system along with the AGHIS. Additional techniques of FD/FI, FAB can also be added.

To ensure that the Petroleum complex mixture is analyzed accurately and meets to any internal Quality Standards, a standard mixture is initially analyzed to confirm the Instrument operation. The fully Automated AGHIS system enables the complete procedure to be implemented for multiple samples without intervention as the run time for each sample could be of a long duration.

The Sample can be injected in the AGHIS or loaded directly into a sample cup . The glass valve are then controlled automatically.



Applications



Several of the most useful analyses for oil fractions use a mass spectrometer. The basic methods involve vaporizing the entire fraction and analyzing the resultant mass spectrum. Specific masses are then identified as belonging to different classes of compounds. By the use of mathematical programs it is then possible to identify the composition of the sample. These types of analyses are often termed "Group Type Analysis".

The 'Group-Type Hydrocarbon analysis can be performed using the Autoconcept with the AGHIS System. A typical result of the composition consists of the following classes of compounds: Paraffin, Naphthalene (Including: Mono, Di, Tri and Tetra Naphthalene), Mono-aromatics, Poly-aromatics (Including: Di, Tri, Tetra and Penta species) , Sulphur containing compounds (Including: Benzothiophenes, Di-Benzothiophenes, Naphthalenothiophenes and di-sulphur containing compounds).

ASTM Methods that can be employed for complicated hydrocarbon mixtures. These methods are well established for HC 'Type' analysis. Following are the different protocols under ASTM.

ASTM 2425 (Middle Distillates)

ASTM 2786 (Gas Oil Saturates)

ASTM 3239 (Gas Oil – Heavy Cut).

