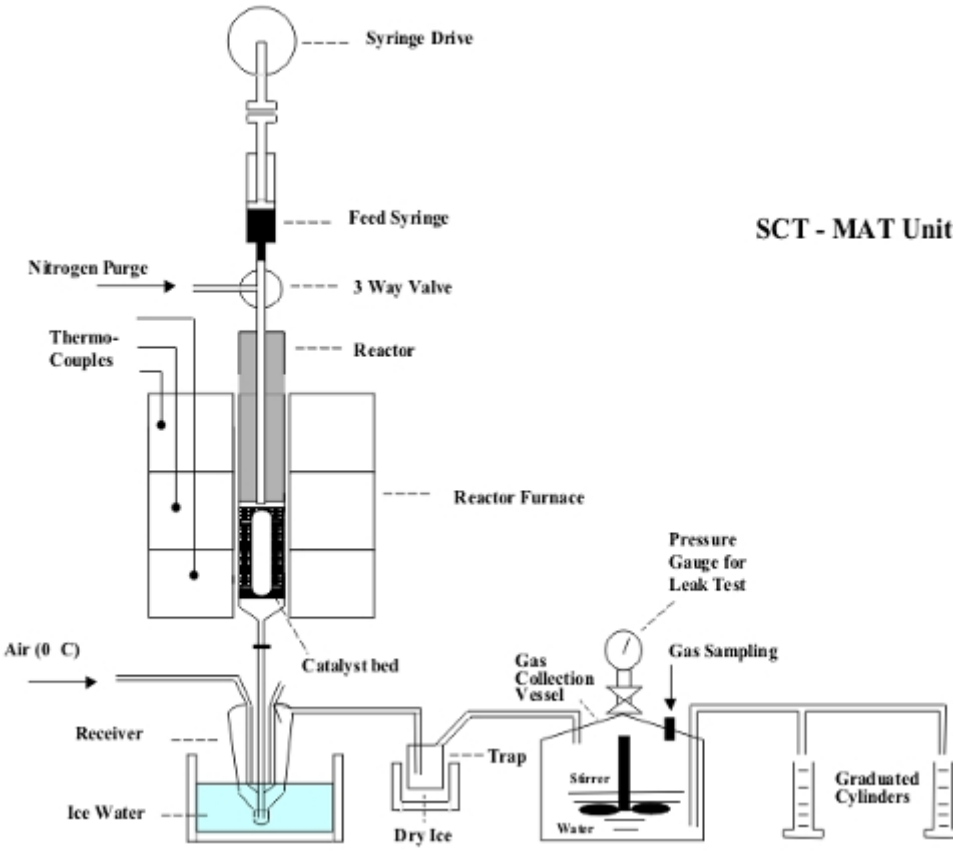
SCT-MAT UNIT

The SCT-MAT reactor is made by Pyrex glass and it is heated by a three-zone furnace. Preheated feed (60°C) is injected into the reactor through an oil capillary heated only by the oven. For this injection a special motor pump is used. The reactor consists of an annular bed where the catalyst is diluted with inert glass beads. The vapor products of the cracking are cooled to 0 °C at the reactor exit where part of them are condensed and collected in a specially designed high volume liquid receiver. The remaining not condensed gaseous products are led to gas collection system (cylinders) and are collected by water displacement. Following the oil injection, N2 flows into the reactor in order to drive the products along the reactor.

SCT-MAT Unit

The gaseous products are analyzed at a specially designed GC called Refinery Gas Analyzer (HP-5890). The gasoline produced is analyzed by Capillary Gas Chromatography (HP 5880 A). The weight of coke, deposited on the catalyst, is measured by an Elemental Analyzer (Leco CHN-800 model).
One of the most important parameters which determine the yield, the quality of FCC products and in general the competitiveness of FCC unit is the catalyst type. It is, therefore, important to be able to predict the effectiveness of FCC catalyst with reliable laboratory tests. With these test the refineries can choose the most satisfactory catalyst.



Schematic diagram of SCT-MAT unit