

## **METHANE CONVERSION TO HIGHER HYDROCARBONS**

### **Abstract**

The present invention provides a process for the manufacture of acetylene and other higher hydrocarbons from methane feed using a reverse-flow reactor system, wherein the reactor system includes (i) a first reactor and (ii) a second reactor, the first and second reactors oriented in a series relationship with respect to each other, the process comprising supplying each of first and second reactant through separate channels in the first reactor bed of a reverse-flow reactor such that both of the first and second reactants serve to quench the first reactor bed, without the first and second reactants substantially reacting with each other until reaching the core of the reactor system.

Figures 1(a) and 1(b)