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**Product Name :**  
Chemical Reactor Process Trainer With PLC

**Product Code :**  
LBNY-0005-10600011



www.laboratoryinstrumentindia.com

**Description :**

Continuous flow reactors are common unit operations in chemical processing plants. Chemical Reactor Process Trainer with PLC is a reduced scale plant that demonstrates continuous flow, exothermic chemical reaction. They are found throughout the petroleum, petrochemical and numerous other industries. Reactants are hydrocarbon fuel and atmospheric oxygen; products are combustion flue gasses. The entire trainer is controlled from a DCS or PLC computer interface with custom designed software and control configuration. The process has instrumentation to provide for reactant flow rate control, product gas analysis, temperature and pressure indication and an interlocking safety system. This gives the student the opportunity to gain real operating experience focusing on both the process of exothermic chemical reactions and on control strategy.

**Objectives:**

Impact of varying operating conditions of reactant flow, excess or limiting reactants and residence time  
Control experience on a Programmable Logic Controller  
Continuous flow reactor operation and measurement  
Process control concepts for manual and automatic operation  
Material balances  
Equipment start-up and operating procedures.

**Technical Specification :**

Continuous up-flow reactor with interchangeable direct combustion and catalytic combustion tips  
Interlocking safety system to stop fuel flow in the event of a flame failure

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Electronic ignition system  
Integrally mounted fuel canister Time to reach steady state after a reasonable step change less than 10 minutes  
Integral viewing ports  
Flow measurement of reactant streams  
Analysis of product stream  
Thermocouple temperature measurement  
Electronic process measurement,  
Custom programmed software configuration and computer operator interface  
Complete unit mounted on a stainless steel frame  
Interlocking safety system to stop fuel flow in the event of a flame failure  
Electronic ignition system  
Complete unit mounted on a stainless steel frame  
Personnel protection shields on hot surfaces  
Custom programmed software configuration and computer operator interface  
Personnel protection shields on hot surfaces.



**Laboratory Instrument India**