MOHAN GANPAT KASHID

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**In quest of challenging assignments as a Process design Engineer with a highly reputed organisation**

**Abridgement**

Technically qualified professional with **12 years** of experience in Process development and process engineering in research & development sector in chemical industry. Acquired knowledge and exposure in Bio Refinery, chemical and nutraceutical sector. I have operated with Research & Development group which gave me a great professional insight in chemical engineering area. I have taken extensive role in research area and have also taken the task of implementing and designing a chemical plant for an organization which stands a milestone in my career to prove my efficiency. Having got a strong and wide knowledge in chemical engineering concepts I applied this in my professional experience in my career and could produce cost-effective efficient products for the organization I worked with. Sound knowledge of swiftly ramping up projects with cross-functional skills & on-time execution. Possess excellent communication, interpersonal & analytical skills with strong organizational & team building abilities.

**Employment Scan**

**Employer: Praj Industries Ltd**

**Responsibility:** Process development & Design Engineer  **since July 2007**

***Functional Skill Set***

* Devlopment of Basic engineering package for newly developed products in R&D center
* Basic Engineering: Process design, Preparing Process Block Diagrams, Mass & Energy Balancecalculations, Proces Equipment & MOC Selection
* Hands on experience on simulation software like Aspen HYSIS, HTRI, CHEMCAD, MATLAB, ANSYS Fluent etc for process designing
* Detail Engineering: Process Simulation, Preparing PFD’s, P&ID’s, Plan & Layout, Equipment List, Line List, Utility detailing & Control Philosophy
* Scale up of processes from lab scale to Pilot scale and then submission of process design package to detailed engineering team for commercial plant
* As a Process Engineer conducting meetings with Process development team, commercial team, client and coordinating with various engineering disciplines
* Life cycle analysis for the newly developed products
* Process Economic study, feasibility study, Risk & sensitivity analysis for new developed process.
* Designing and sizing of equipments like Shell & Tube Heat Exchangers, Tray & Packed Columns, Two Phase Seperators, Pressure Vessels, Pumps, Pressure Safety valves, Storage Tanks, etc.
* Preparing and Checking process data sheets for Pumps, Distillation Columns, reactors, Heat Exchangers, Pressure Vessels, Storage Tanks, and Control Valves etc.
* Preparation of process data sheets for Pumps, Blowers, Filters, agitators, Control Valves, Cooling Towers

**Major Projects Handled**:

* **Biorefinery Lignocellulose to Ethanol (400 MTPD)**

Roles: Process development & Design Engineer

**Responsibilities:**

* Scale up of process from Lab scale to pilot scale and from Pilot scale to Demonstration scale
* Preparation of basic engineering package for lignocellulosic ethanol process for commercial plant of capacity of 400 TPD plant Rice straw to ethanol plant
* Preparation of Process Block Diagrams and Calculation of Mass & Energy Balance
* Critical Process Equipment & Pipeline Material Selection for the new process
* Reaction kinetics study and implementation in reactor design
* Preparation of process control and instrumentation specification
* Detailed operating philosophy, instructions and analytical procedure manual
* Basic engineering of fractionation Reactor, columns, heat exchangers, pumps, storage vessels
* Preparation of PFD’s & P&ID’s, tentative plan and layout
* Developed simulation model of the overall process in ASPEN for reaction, separation, purification, distillation, evaporation
* Scale up of reactor by CFD simulation on ANSYS Fluent
* Pump hydraulics, line size, pressure drop calculation for process and utility
* Supported detail Engineering of Demo plant
* Sizing of PSV’s & Control Valves & develop Control logic for the process
* Participated in Pre-Hazop and Hazop activity
* **Tocopherol ( Vitamin E) from Soya oil deodorizer distillate (100 MTPA)**

Roles: Process development & Design Engineer

**Responsibilities:**

* Scale up of process from Lab scale to pilot scale
* Preparation of basic engineering package for extraction of Vitamin E from SODD for nutraceutical industry
* Preparation of Process Block Diagrams and Calculation of Mass & Energy Balance
* Simulation on ASPEN for separation of solvents from the process for multi component distillation system
* Design of Chromatography column system for high purity tocopherol
* Critical Process Equipment & Pipeline Material Selection for the new process
* Preparation of process control and instrumentation specification
* Detailed operating philosophy, Process description, instructions and analytical procedure manual
* Sizing of Reactors, distillation columns, two phase separators, heat exchangers, pumps, storage vessels
* Preparation of PFD’s & P&ID’s, tentative plan and layout
* Pump hydraulics, line size, pressure drop calculation for process and utility
* **Pyrolysis Plant (25 MTPD)**

Roles: Process Design Engineer

**Responsibilities:**

* Basic engineering activity done for the Bagasse to pyro – oil project
* Preparation of Process Block Diagram and Calculation of Mass & Energy Balance
* Preparation of PFD’s, P&ID’s, Equipment List & Line List
* Reactor, Reheater & quenching system sizing & Refractory lining thickness estimation
* Designing of Shell & Tube Heat Exchanger for Gas–Liquid service
* Sizing of PSV’s & Control Valves & develop Control logic for Solid flow control
* Preparation of process data sheets for Pumps, Storage Tanks and Heat Exchangers
* **Furfural production from biomass ( 25 TPA)**

Roles: Process Design Engineer

**Responsibilities:**

* Process scale up from batch mode Lab scale to continuous pilot scale
* Preparation of Process Block Diagram and Calculation of Mass & Energy Balance
* Simulation in ASPEN for process design
* Technology transfer document preparation
* Preparation of preliminary basic engineering package for 25 MTPA furfural production
* Preparation of Techno-economic model
* Equipment sizing & capital cost estimation
* ASPEN simulation for the recovery of furfural with minimum energy requirement
* **80 KLPD Molasses Based Extra Neutral Alcohol Zero Effluent Plant**

Roles: Process Engineer

**Responsibilities:**

* Mass & energy balance preparation and Equipment sizing for process
* Hydraulic & NPSH Calculation for Centrifugal Pumps
* Simulation on CHEMCAD and HTRI for distillation column and heat exchanger sizing
* Preparation of PFD’s & P&ID’s for Process plant & for Utility Systems
* Preparation of Equipment List, Line List & Utility List
* Preparation of Equipment Process Datasheet (PDS) for Static Equipment & Rotary Equipment
* Preparation of plan, layout & elevation
* Control logic development, Sizing & selection of Pressure safety valves
* Preparing and checking process data sheets for Pumps, Control Valves, Heat Exchangers and Columns.
* Technical evaluation of vendor quotations for Pumps, compressor, Blower, PSV

**Other projects handled**

* 1, 3 Butadiene from 2-3 BDO
* Hyaluronic acid production
* Rice bran wax upgradation
* Production of Omega 3 from fish oil

**Scholastics**

* **Gold medalist** for PhD in University of Pune
* **PhD** from **University of Pune**
* **B.Tech (Chemical Engineering)** from **UDCT** Jalgaon with **Distinction (77.35%)** in 2003-07
* Passed HSC Examination with 79.80%.
* Passed SSC Examination with 82.13 %.

**Academics Projects**

* **PhD Topic :** Scale up aerobic fermentation for xylose to ethanol process with optimum yield and

Productivity

Study of reaction kinetic of the process and scale up of the process from lab to pilot scale and from pilot scale. Computational fluid dynamics (CFD) technique used to validate the mixing behaviour of fermenter. Understanding of hydrodynamic behaviour and gas-liquid mass transfer in bioreactor by CFD analysis

* **M.tech Project :** Life cycle analysis for algae to biodiesel – Cradle to grave approach

### Conference & Workshop

* Attend workshop on “Innovative Problem Solving” which includes TRIZ analysis
* Attend Conference on “ Energy Saving in Process Engineering”

## Software Proficiency

* Process Simulation : Aspen Plus, CHEMCAD, ANSYS Fluent, MATLAB, SAGES
* Heat Exchanger Sizing : HTRI

**Achievements**

**Career:**

* Got Chairman award for Best Performance for year 2009

**Extra curriculum:**

* Topper in Integrated M.tech – PhD admission exam in University of Pune

**Personal Details**

Name in Full : MOHAN GANPAT KASHID

Date of Birth : 14th January, 1986

Address : B-05, Blue bells, Choudhary park, Wakad, Pune, Maharashtra-411057.

Marital Status : Married

Nationality : Indian

Yours truly

Mohan G. Kashid.