



MANOJ BENDALE

Manufacturing | Process Engineering

Career history of heading process engineering initiatives & executing objectives for achieving productivity and continuous improvement goals to tackle operational challenges



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Core Competencies

Strategic Planning Process

Enhancement Process

Transformation

Technology Transfer & Scale up

Plant Capacity Up-gradation

Manufacturing Operations

Quality Management Resource

Optimization

Team Management

Personal Details

- **Date of Birth:** 31st May 1967
Languages Known: English, Hindi and Marathi
- **Address:** A3,402, Avasa Luxury Residency, Indore 452012, MP

Career Path (last 6 Organizations)

Jan'06-Nov'06

SRF Ltd., (Pharma Chemical Business), Alwar as Chief Manager

Sep'10-Jun'13

Jubilant Life Sciences Limited, Gujarat as Sr. Manager-Production

Feb'15-Jan'16

Aurobindo Pharma Limited as General Manager-Technical Services

Nov'06-Sep'10

Lupin Ltd. Madhya Pradesh as Sr. Manager-Process Engineering

Jun'13-Feb'15

Dr. Reddy's Laboratories Ltd. as Associate Director-Continuous Improvement Cell

Jan'16-Mar-20

Symbiotec Pharmed Private Limited as General Manager-Process Engineering

Soft Skills



Change Agent



Collaborator



Communicator



Motivator



Planner

Profile Summary

- Process Driven Executive offering progressive leadership experience of over 27 years in driving Erection and Commissioning, Basic & Detail Engineering, Project management, Plant Operations, process maintenance, Process Development, process innovation, transformation, change management, Documentation and efficiency enhancement strategically within the organization like chemical, Intermediates & Pharmaceutical Industry.
- Management of Execution of newly developed bulk drugs, Site transfer, and Contract management projects at Strategic Business Partner's location.
- A successful career chronicle in registering multi-million savings worth INR 25 Crores through the implementation of Solvent Recovery & Recycling Solutions
- Designed world-class systems & implemented processes based on diversified Chemical Engineering concepts for enabling organizations to consistently meet & enhance customer satisfaction
- Growth Driver, recognized for scaling up new products at the plant level and stabilizing processes; translated abstract concepts, theories & methodologies into process enhancement solutions that clearly support business needs
- Facilitated the organizations to simplify processes rather than just automate, redesign to adapt best practices and minimize organizational barriers resulting in multi-million-dollar savings and increase in overall efficiency

Education

- B.E.(Chemical Engineering) from Jawaharlal Nehru Engineering College Aurangabad, Maharashtra in 1993

Trainings

- Technology Knowhow from Messer Mahler IGS, Germany
- Conceptualization & Scale up trials of Active freeze drying of the Hormonal products at Netherlands.

Organizational Experience

Mar-20 – till date Professional Freelancer – Chemical Process Engineering

- Completed Technical feasibility study for acquisition of the API Plant situated at Bhopal.
- Completed Technical feasibility study for acquisition of the Specialty chemical plant situated at Tarapur.
- Designed solvent recovery plant through one of the business solution providing private organization. Process Design of Solvent dehydration using molecular sieve.
- Lab scale high pressure reactor designed for one of the fabricator.

Jan'16- Mar-20 Symbiotec Pharma lab Private Limited, Indore, Madhya Pradesh as General Manager – Process Engineering

Key Result Areas:

- Scale up & Technology transfer of the products from Lab scale recipe to commercial production of the few molecules.
- As project leader involved in working out various requirements with respect to budgeting, cost estimates Expenditures, Design and verification of detail engineering, Planning, Utilities, machines, manpower and monitoring overall projects viz Unit-3, Unit-7 & ETP-Site-1 (Rau) & ETP Expansion at Site-2(SEZ) from 300 to 400 M3/Day with Zero Discharge status.
- Effectively managed the layout & sizing of the Hydrogenation Facility with adequate automation & total safety required with HAZOP Study for all manufacturing steps for one of the alternate cost-effective process of hormone products.
- Directing the operations of the Process Engineering Department with multi product manufacturing blocks entailing complexity of multiple hormones & steroidal products with capacity of 0.5 to 5.0 MTPM blocks.
- Designing & implementing systems, processes, and procedures to facilitate smooth functioning of production operations and enhance operational efficiency; ensuring that the Organization expectations are met
- Liaising with equipment suppliers/vendors to discuss design issues & resolve problems, coordinating for plant expansion activity, new projects, process changes and quality improvements activities, Brown field projects etc.
- Building the solvent recovery process for ensuring that the solvent specification meets the recycling norms and designing facility accordingly.

Highlights:

- Slashed across the board costs and planned savings worth INR 3.0 crores through the design & implementation of Solvent Recovery & Recycling Solutions
- Conducted successful trials & Commercial set up for sludge volume reduction by using Cuneiform double shaft Paddle Dryer.

Feb'15-Jan'16 Aurobindo Pharma Limited, Visakhapatnam, Andhra Pradesh as General Manager- Technical Services & Technology Transfer Operations

Key Result Areas:

- Spearheaded the Technology absorption & Transfer along with Technical Services Department entailing 24 big manufacturing blocks entailing a complexity of multiple products with capacity of 10 to 75 MTPM blocks.
- Directed the entire gamut of manufacturing operations for the plant and managed the development, implementation and continual improvement of the operating methods, equipment, systems and other operating infrastructure.
- Designing additional facility for retrofitting the more products in manufacturing blocks to run the campaign products.
- Led the facility up-gradation, cost reduction initiatives & campaign wise product monitoring to achieve the optimum yields and desired quality
- Established the trials for new equipments & tailor-made automation for API's manufacturing:
 - o Continuous filtration by pusher centrifuge & drying through continuous fluidized bed dryer for metformin hydrochloride.
 - o Rotary pressure filter (BHS Filter) for Valacyclovir continuous filtration
 - o Implementation of phase wise cooling automation for Valsartan crystallization to achieve desired particle size.

Highlights:

- Scaled up the new chemical entity & custom pharmaceutical product from R&D scale to commercial scale entailing a vast range of equipment & Agitator type, Reactor Type and Filtration type, performing what-if study in coordination with R&D
- Devised multi-product manufacturing strategies which led to 12 product manufacturing benefits for the company in the same newly designed facility
- Retrofitted the multiple solvent recycling in one facility through appropriate arrangement of changeover and storage.

Jun'13-Feb'15

Dr.Reddy's Laboratories Ltd., Visakhapatnam, Andhra Pradesh as Associate Director- Continuous Improvement Cell (A Transformation Leader)

Key Result Areas:

- Technology absorption leader at site for evaluation of process & safety for smooth implementation of the products at commercial scale.
- Planning and coordinates and directs activities and initiatives that have broad organizational impact focusing on continuous improvements include activities and initiatives relating to product services partnering with Service Delivery, Operations and Implementation Services; evaluation and recommendations on infrastructure and internal operating platforms; rollout and training activities.
- Reduces costs in manufacturing by eliminating waste, reducing variation, and streamlining key value streams and business processes.
- Keeps Location head & Manufacturing team and other site leadership team informed of manufacturing performance and continuous improvement activities.
- As PSM chairman: Change management for facility and technology with the PSM management of change process. PSM involves Process Hazards Review, changes in process documentation and operating procedures, the need for a Pre-startup Safety Review, and possibly other PSM elements depending on the change. Below are the elements that should be addressed:
 - 1) Developing of and storing process safety information.
 - 2) Completing the PHAs, including impact on the site facility siting study,
 - 3) Developing the operating and maintenance procedures, as necessary.
 - 4) Provide training as necessary to operators and mechanics.
 - 5) Implementing a quality assurance process for equipment procurement and installation.
 - 6) Pre-startup safety review
- Successfully completed the Process Safety & Hazard Analysis of 40 API Products which includes HAZOP Study, Risk Analysis, study of hazardous Reaction by Calorimetry, FMEA etc. and assessment of retrofitting of the Products in existing facility was successfully completed.

Highlight:

- Achieved savings worth INR 55 crores through time cycle, elimination of non-value-added steps like drying of intermediate steps & yield improvement.

Sep'10-Jun'13

Jubilant Life Sciences Limited, Bharuch, Gujarat as Senior Manager- Production (Niacinamide)

Key Result Areas

- Successfully commissioned an INR 105 Cr project to bring a Niacinamide product to market within projected timelines actively involved in HAZOP, HAZEN study, monitored commissioning activity with installation & technical team to get the first time right & vertical commissioning of plant in less hassles and no ups and down. Regulation of operations like Catalytic Hydrolysis, Continuous concentration and spray drying of Niacinamide to form granulated product. Actively involved in capacity up gradation of the same up to 1000 MT/Month.
- Successful documentation & implementation of certificates like FAMI-QS, ISO 9001:2008, ISO 14001:2004, OHSAS 18001:2007, ISO 22000:2005, FAMI-QS, HACCP, Kosher and Halal India & Indonesia. Faced various audits of customers related to Food & feed segments.

JOB RESPONSIBILITY AS HEAD- PRODUCTION

- Achieving the production targets as per the requirements and ensure the timely dispatch of product.
- Ensure the manufacturing activities are carried out as per cGMP guidelines.
- Co-ordinate for plant expansion activity, new projects, process changes, quality improvements activities
- Production Planning and materials indenting according to production planning and follow up of raw material to concern department.
- Conduct training of new process and cGMP regulation to plant personnel.
- Work closely with the Environmental Health and Safety Manager to ensure all members of the manufacturing team are aware of safety policies to provide a safe workplace for our employees.
- Conduct performance appraisals and provide coaching and guidance to all operations employees.
- Encourage and promote operating team in a continuous improvement environment.
- Remove waste and constraints from the production process to improve efficiencies and enhance productivity.
- Regulated the operations such as Catalytic Hydrolysis, Continuous Concentration and Spray Drying of Niacinamide to form granulated product; upgraded the capacity to 1000 MT/month
- Ensured successful documentation & implementation of certificates like FAMI-QS, ISO 9001:2008, ISO 14001:2004, OHSAS

Highlight:

- Slashed the Niacinamide Powder Packing Equipment downtime by 30%, saved costs, and ensured on time customer delivery by designing & implementing a continuous packing process from a batch process.
- Actively involved in FDA licensing activity of the newly constructed Niacinamide plant.

Nov'06-Sep'10 **Lupin Ltd. Bhopal, Madhya Pradesh as Senior Manager- Process Engineering**

- Was heading the responsibility of Process engineering & Technology absorption of the Bulk drugs, solvent Recovery, and new initiatives.
- As a Project coordinator of Process side for Final Powder Processing area and ETP Expansion with ZLD status, was involved in working out various requirements with respect to budgeting, cost estimates Expenditures, Design and verification of detail engineering, Planning, Utilities, machineries etc.,
- Involved in facility up-gradation, cost reduction & campaign wise product monitoring to achieve the optimum yields and desired quality.
- Developing solvent recovery process to meet the solvent specification to meet the recycling norms or as fresh solvent and designing facility accordingly,
- Involved in environmental jobs for zero liquid discharge like Multiple Effect Evaporator; super-decanter centrifuge for sludge removal, agitated thin film dryer to convert the final total dissolved solids of the effluent in powder form for easy disposal.
- Conceptualization to successful commissioning of the facility for Dimethylacetamide and Dimethylformamide recovery which includes Basic Engineering, Design, Specifications preparation, Enquiry and procurement of the equipment with adequate automation for operation of the facility.
- Successful Retrofitted the design of an energy integration in existing distillation columns of solvent recovery.
- Successful Conceptualization of API recovery from mother liquor solvent using solvent compatible membrane.

Highlights

- Successfully executed the concept, design & commissioning of a INR 20 cr. project for Zero Liquid Discharge status.
- Streamlined the silylation process and controlled the addition rate of one of the raw materials which improve the capacity from 56 TPM TO 65 TPM
- Achieved savings worth INR 35 Cr. through solvent conservation, reduction at source and loss minimization at source
- Ensured successful commissioning of Distillation Column & PSA Hybrid system for achieving almost dry solvent without using third solvent as entrainer.
- Heat recovery by integration twin distillation column – condenser of first as re-boiler of second & condenser of second used as preheater of first distillation column.

Jan'06-Nov'06 **SRF Ltd., (Pharma Chemical Business), Alwar, Bhiwadi, Rajasthan, as Chief Manager- Technical Services & Technology Absorption.**

- Primarily involved Technology absorption & stabilization of DCS controlled Trifluoro Acetic Acid Continuous Plant & Multi-purpose Plant Manufacturing Fluorine based Pharma intermediates viz Penta Fluoro Benzoic Acid, involved in Fluorination, Chlorination & Bromination etc.
- Involved in stabilization, debottlenecking & capacity up-gradation of the TFA, PFBA, PFBN & New products and their by-products etc
- Upgraded the capacity from 5.0 TPM to 14 TPM for Trifluoro Acetic Acid & 3.0 TPM to 5.0 f TPM of PFBA

Oct'04-Jan'06 **Dr. Reddy's Laboratories Ltd., Hyderabad, Telangana, as Assistant Manager –Process Engineering**

- Accountable for scale up of new chemical entity & custom pharmaceutical product from R&D scale to commercial scale comprising of selection of equipment's, Agitator type, reactor type, Filtration type, and conducting what-if study in coordination with R&D.
- Successfully completed a Scale up of the product from lab scale to the commercial scale of the intermediate of the anti-infective compound and from lab scale to the pilot scale of the intermediate of the anti-platelet compound.
- Pivotal in transferring the technology from Lab scale to pilot plant and finally to commercial plant; skillfully trouble-shooted the problems evolved during Lab scale, Pilot scale as well as commercial scale up.

- Carried-out process engineering calculations for sizing of process equipment's and accessories requirements for the product development.
- Prepared and floated enquiry specifications for equipment's & accessories; involved in technical evaluation of the quotations Lab validation and plant validation of the new chemical entities under pre-clinical trials.
- Identification of the in-house capabilities for a new product manufacturing.
- Successful scale up of 5 new chemical entity & custom pharmaceutical products from R&D scale to commercial scale.
- Successful commercial scale up of the intermediate of the anti-infective & anti-platelet compound and from lab scale.

Feb'97-Oct'04

Alkyl Amines Chemicals Ltd., Kurkumbh, Daund, Pune, Maharashtra as Senior Engineer (Process Engineering)

Highlight:

- Successful technology absorption & transfer of 12 commercial products from R&D to commercial scale production
- Reduced the oxidation reaction time cycle of process bottleneck by 50% through modification of a reactor agitator to improve the agitation as well as heat transfer
- Successful erection, commissioning & of project Hydrogen gas production worth INR 45 Cr. with gas compression & high-pressure Hydrogen gas cylinder bottling and storage
- Successfully commissioned the Hydrogenation Plant for para nitro cumene to para cumidine, reductive alkylation of para nitro chlorobenzene to Isopropyl Para Chloroaniline, reduction of nitrile to amine, reductive amination of cyclohexanone to achieve dimethylcyclohexylamine
- Successful scale up of Hydroxylamine, Propylamine and amine Hydrochloride powder, mosquito repellent product from lab scale to commercial scale.
- Successfully commissioned the 600nM3/Hr PLC-SCADA controlled continuous fully automated Hydrogen Gas Generation Plant from Methanol steam reforming and pressure swing adsorption, which included compression of hydrogen gas from 25 Bar to 150 Bar.
- Instrumental in capacity stabilization of Ethylamine Plant to 40MT/Day of mixed Amine Plant comprising of 5 Continuous Distillation Columns and Amination Converter with Recycle Gas Compressor.
- Increased Hydroxylamine plant capacity from 30MT/Annum to 330MTA again increased up to 900MT/Annum by increasing sizing of equipment.
- Increased the capacity of Amine HCL plant from 330 MT/Annum to 850 MT/Annum by Plant modification.
- Production Planning & Scheduling and Monitor the production processes / run and adjust /update schedules as needed.

Aug'94-Feb'97

NRC Ltd. , Mohone, Kalyan, Thane, Maharashtra as Senior Officer (Production)

- Entrusted with onus of controlling 100TPD Caustic soda plant, Technology know-how of M/S Denora Permelec Spa Italy and Bipolar ion exchange membrane technology.
- Regulated various process operations involved in all basic units of caustic soda membrane plant.
- Successfully erected & commissioned all equipment in assigned area.
- Accountable for material expediting and procurement follow-up during project execution of Caustic soda membrane plant.
- Facilitated testing of equipment, instrument loop checking and tuning as well as checking of process and electrical interlocks are some of the jobs.
- Constantly monitored all process parameters & process activities of Caustic soda membrane cell plant and flaking plant through Yokogawa Micro XL, distributed control system.
- Surpassed objective while 15% understaffed.
- Consistently built & maintained strong relationships with Vendors and customers through close & effective communication.
- Planned and controlled production process and directed efforts of workforce to maximize productivity.
- Conduct machine audits regularly and follow-up and ensure prompt corrective and preventive action.

Sep'93-Aug'94

Versatile Chemicals Pvt.Ltd. Dombivali, Thane, Maharashtra as Management Trainee

- Looking after all batch operations involved in Fatty amine & Amine derivative plant. The unit comprises Cynoethylation, Hydrogenation, Filtration and Distillation. The job includes planning of shift activities, goal targeting and record maintaining.
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