

NAGESH NARAYANRAO RAJEPANDHARE

Date of Birth: 19th March 1969

Present & Permanent Address: Murarji Peth, Near Kalpana Talkies, Solapur - 413001, Dist: Solapur, Maharashtra State, India

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Key Professional Skills & Competencies:

Research & Development, Design of Machine Elements, Engineering Design Calculations & Analysis, Engineering Design & Analysis of Thermodynamic Systems & System Elements, Technology Development, Technology Transfer & Adaption, Product Design & Development, Product Performance Testing & Validations, Reverse Engineering & Re-engineering, Value Analysis & Value Engineering, Mathematical Modeling & Computational System Simulations, Innovations, Intellectual Property Rights (IPR), Knowledge Management, Very good verbal & written proficiency in German language & Entrepreneurship

R&D, Technology Development, Technology Transfer & Adaption of key Products/Projects/Assignments worked upon during professional career:

- ◆ Mathematical Modeling & Simulations of Multi-Temperature Refrigeration Appliances
 - ◆ Experimental Investigations on Desiccant based Evaporative Cooling Systems
 - ◆ Experimental Investigations on application of Variable Speed Compressors in house hold refrigeration & air conditioning appliances
 - ◆ Mathematical Modeling & Simulations of the Full Hermetic Compressors, Evaporators, Condensers, Capillary Tubes etc.
 - ◆ Experimental investigations on Patented new innovative 'Thermal Compressors'
 - ◆ Mathematical Modeling & Experimental Investigations on 'Two Phase' Flow
 - ◆ Reciprocating Air Compressors & Packages
 - ◆ Rotary Screw Air Compressors & Packages
 - ◆ Air Compressors for special applications
 - ◆ Compressor Valve Systems for Air Compressors, Refrigeration & Air-conditioning Compressors, Gas Compressors etc.
 - ◆ Air Braking Systems for Heavy Commercial Vehicles & components of the Air Braking System like Air Brake Compressors, Various Pneumatic Valve Systems, Brake Actuators etc.
 - ◆ Engine & Transmission products like Viscous Dampers, Clutch Servo, Exhaust Brake Valve system etc.
 - ◆ Collaborative research projects on ABS, EBS & other advanced systems of heavy Commercial Vehicles
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Profile Summary:

Academic Summary:

- Master of Technology (M.Tech) - I.I.T. Delhi (Year 2000)
- Bachelor of Engineering (B.E.) - Mechanical (Year 1991)

Professional Experience Summary:

A) 14+ Years of proven professional experience in R&D, Design of Machine Elements, Engineering Design Calculations & Analysis, Engineering Design & Analysis of Thermodynamic Systems & System Elements, Technology Development, Technology Transfer & Adaption, Product Design & Development, Product Performance Testing & Validations, Reverse Engineering & Re-engineering, Value Analysis & Value Engineering, Mathematical Modeling & Computational Simulations of Mechanical Engineering Products like:

Refrigeration & Air-conditioning Systems, Air Compressors, Compressor Packages, Capacity Control Systems, Compressor Valve Systems, Automotive Air Braking Systems, Air Brake Compressors, Air Dryers, Various Pneumatic Valve Systems of Air Braking System, Brake Actuators, Exhaust Brake Valve System, Clutch Servo System, Pneumatic Actuators, Viscous Dampers, Collaborative research projects in ABS, EBS & other systems of the automotive vehicles etc.

B) 6 Years of professional experience in Manufacturing Engineering & Machine Tools Assembly

Patents Granted & Patent Applications:**Patents Granted:****A System and a Method for Capacity Control in a Screw Compressor**

(EP1844236(A1), EP1844236(B1), US2008286087(A1), CN101163885(A), CN100562666(C), HK1116852(A1), AT504743(T), Indian Patent No. 250266)

Patent Applications:

- A System and a Method for Capacity Control in a Screw Compressor (International Patent Application PCT Application No. WO/2006/095364)
- A Novel Rotor Bleeding Capacity Control Technique for Rotary Screw Compressors (Provisional Indian Patent Application CHE 86/2005)

Major Academic & Professional Achievements:**Major Academic Achievements:**

- Awarded GATE Fellowship by Govt. of India
- Awarded DAAD Fellowship by Federal Republic of Germany

Major Professional Achievements:

- Set-up & Commissioning of 2 Green Field Manufacturing Facilities
- Training in Manufacturing Science & System Engineering in Germany
- Experimental & Computational Simulations core R&D Experience in Germany
- First Inventor of the 6 National & International Patents
- Global Series of Bleed Airends based on Patented Technology
- Designed & Developed first of its kind High Speed Reciprocating Compressor for World Market
- Technological Transformation of an Indian Pvt. Ltd

- 300% improvement in Productivity with accompanied 75% reduction in Manufacturing costs & 400% Reduction in Space Utilization
 - Developed & Validated 2 Air Brake Compressor Projects in about 15 Months
 - Developed & Validated import substitute Exhaust Brake Valve Pneumatic Actuating Cylinder Localization Project in 3 Months
 - 60% Cost Reduction through Design, Development & Localization of the Compressor Valve System for a Air Brake Compressor
 - Improved Air Braking response time from 0.69 seconds to 0.46 seconds
 - Devised & formulated simple incoming quality test procedure for Rubber Parts to be used in low temperature & high temperature field applications
 - Developed & Validated first time in India Silicone Gasket Sealing Technology for Flapper Valves
 - 8 Days of Training on Design of Standalone Photo Voltaic Systems organized at I. I. T. Madras & funded by World Bank & Siemens
 - As a first generation entrepreneur gained experience in functional responsibilities like Market Study & Analysis, Technical Sales & Marketing, Costing, Design & Development of Special Purpose Machines etc.
 - As a Self Employed Professional Supporting, Preparing & Mentoring Small & Medium size Manufacturing Industries & Entrepreneurs for strengthening the Engineering & Technological Capabilities
 - Entered into 3rd & final round of a cloud sourced global Engineering & Technology Challenge Competition having winning prize of € 10,000
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Professional Experience Details:

1) 11/2017 To 06/2018

Organization : Madras Engineering Industries Pvt. Ltd

Designation : General Manager – R&D & Design

Work Area & Responsibilities:

R&D, Design of Machine Elements, Engineering Design Calculations & Analysis, Engineering Design & Analysis of Thermodynamic Systems & System Elements, Technology Development, Technology Transfer & Adaption, Product Design & Development, Product Performance Testing & Validations, Reverse Engineering & Re-engineering, Value Analysis & Value Engineering, Mathematical Modeling & Computational Simulations of Mechanical Engineering Products like:

Air Braking Systems, Air Brake Compressors, Air Dryers, Brake Actuators, Various Pneumatic Valve Systems of Air Braking Systems, Collaborative advanced R&D projects like ABS, EBS & other advanced systems for heavy commercial vehicles.

2) 08/2015 To 10/2017

Organization : Self Employed

Designation : Self Employed

Work Areas & Responsibilities:

Supporting, Preparing & Mentoring Small & Medium Mechanical & Manufacturing Industries to enhance their Technological & Engineering Capabilities, Participating in global Engineering & Technology challenge competitions & tournaments, Conceptualization & drafting of own research themes, Ideas & Concepts

3) 08/2012 To 04/2015

Organization : Co-Founder of a Manufacturing Venture

Designation : Director – Technology & Product Development

Work Areas & Responsibilities:

As a Co-Founder of the Manufacturing Venture handled below mentioned major responsibilities:

Market Study, Customer Identification, Sales Lead generation & Follow-up, Technical Sales & Marketing, Enquiry & RFQ Generation, Costing & Offer Submission, Price & Delivery Schedule Finalization, Product Design & Development, Design, Set-up & Commissioning of the Manufacturing Facility, Product Testing & Validations, Design & Commissioning of Product Performance Test Rigs, Assembly Stations, SPMs, Identification & Procurement of the Standard Manufacturing Machines e.g. Power Presses, Grinding etc.

4) 07/2010 To 06/2012

Organization : Knorr Bremse Systems for Commercial Vehicles India Pvt Ltd

Designation : Sr. Manager-R&D

Work Areas & Responsibilities:

Design of Machine Elements, Engineering Design Calculations & Analysis, Engineering Design & Analysis of Thermodynamic Systems & System Elements, Technology Transfer & Adaption, R&D, Design & Development activities related to Commercial Vehicles Air Braking & Transmission Systems & its Products like:

Various Pneumatic Valves of Air Braking Systems, Brake Actuators, Clutch Servo, Viscous Dampers, Air Brake Compressors, Exhaust Brake Valve System, Air Dryers and Pneumatic Actuators etc.

5) 06/2006 To 06/2010

Organization : Gala Precision Technology Pvt. Ltd.

Designation : Sr. Manager-R & D

Work Areas & Responsibilities:

R&D, Design of Machine Elements, Engineering Design Calculations & Analysis, Engineering Design & Analysis of Thermodynamic Systems & System Elements, Design & Development activities related to Valve Systems for Air, Gas, Refrigeration & Air-conditioning Compressors, Enhancement & Technological Transformation of the organization, Enabled Technological entry of the organization into World Market, Technological entry into new high precision & critical product market segments, Resolution of customer complaints, Value Analysis & Value Engineering, Reverse Engineering & Re-engineering projects, Design & Setting up of R&D, Testing Laboratory for Compressor Valve Systems

6) 11/2003 To 04/2006

Organization : Elgi Equipments Ltd

Designation : Dy. Manager- Technology Development

Work Areas & Responsibilities:

Technology Development, R&D, Design of Machine Elements, Engineering Design Calculations & Analysis, Engineering Design & Analysis of Thermodynamic Systems & System Elements, Product Design & Development, Product Testing & validations, FEA etc. of the products like:

Reciprocating Air Compressors, Rotary Screw Air Compressors, System Energy Efficiency Improvements, Compressors for special applications, Capacity Control Methods & Systems, Thermal Management Systems, Fatigue Life & Wear Life Improvements of the various components, System & Engineering analysis with CAE & CFD software, Mathematical Modelling & System simulations

7) 02/2001 To 03/2003

Organization : Dresden University of Technology, Dresden, Germany

Designation : Research Project Engineer

Work Areas & Responsibilities:

Collaborative fundamental & advanced research projects in Refrigeration & Cryogenics applications like:

Design & Development of Simulation software for Multi-Temperature Household Refrigeration Appliances, Investigations on Variable Speed Compressors Application in Household Refrigeration Appliances, Mathematical Modelling & Computational Simulation of various components like Compressors, Heat Exchangers, Capillary Tubes etc., Investigations on Multi-Phase Fluid Flow in heat exchangers like Condensers, Evaporators & Expansion Devices like Capillary Tubes etc.

8) 03/1993 To 07/1998

Organization : Suessen Asia Pvt. Ltd.

Designation : Senior Engineer - Manufacturing

Work Areas & Responsibilities:

Manufacturing, Production, Production Planning & Control, QA etc.

9) 01/1992 To 12/1992

Organization : Kirloskar Brothers Ltd.

Designation : Trainee Engineer-Machine Tools Assembly Division

Work Areas & Responsibilities:

Training on assembly techniques for various machine tools like Vertical Turret Lathe, Vertical Machining Centres, Co-ordinate Tables & Hydraulic Key-Way Milling Machines, Shaping Machines etc.

Personal Traits:

- Ability to work in Multi-national & Multi-cultural teams
 - Out of the Box, Imaginative & Innovative mind
 - Analytical, logical & Application oriented thinking ability
 - Proficiency in application of the Laws of Physics, Engineering Fundamentals & Principles for solutions of the real life engineering problems & situations
 - Trained thoroughly in well famous & admired German Work Practices
 - Ability to learn & adept very fast to new technologies & tools in various areas of engineering sciences
 - A Calculated Risk Taker
 - Accept & Deliver any kind of Mechanical Engineering & Technology Challenges without having any previous experience in the same
 - Up-right professional with high personal & professional ethical principles & standards
 - Introvert & Silent by nature
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References:

Will be provided on request
