

David Lewis

Mechanical Design Engineer

Director – Foodstream Pty Ltd

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David Lewis has tertiary qualifications in mechanical engineering and thirty years experience in product and process design and development in the food processing and materials handling industries. He has been responsible for special purpose mechanical system design and construction for Australian and International companies in industries as diverse as snow making and mining to drying and packaging.

Expertise includes:

- Process design and specification for processing systems
- Design & supervision of manufacture of a fluidised bed tea dryer
- Design, nonlinear finite element analysis and rapid prototyping of various new products
- Plant layout in 3D
- Design & supervision of manufacture of materials handling/conveyors – vibratory, belt, modular, screw, elevating, and dense phase conveyors, screens, length graders, carton packers, pallet & crate handling systems
- Hygienic design, stainless steel machinery
- AQIS (Australian Quarantine & Inspection Service) & TGA (Therapeutic Goods Administration) standard design,
- Research & development, project management from design, manufacture to commissioning of special purpose machinery.
- Cooker/mixers, ribbon mixer, screw feeders, tanks, washers,
- Pressure piping and vessels, tanks, lifting attachments, factory cranes

Qualifications

1. Associate Diploma - Mechanical Engineering (full time), Darling Downs Institute of Advanced Education (1980). Eligible Associate - The Institution of Engineers Australia.
2. Bachelor of Business - Human Resource Management (part-time), University of Southern Queensland. Eight semesters successfully completed.
3. Computer Aided Drafting I, II & III - Honours
Manual Numeric Control Programming I - Honours
Manual Numeric Control Programming II - Credit
Numeric Controlled Machine Operation
Solidworks 3D modules 1 & 2
4. Level One Accredited Trainer with Australian Junior Chamber
Current trainer Solidworks® 3D modelling.
Certificate IV in workplace training and assessment.

Experience:

JAYBEE ENGINEERING PTY LTD, Dandenong, Victoria (Sprout Waldron)

July 1980 to November 1981

Position Held: Trainee Engineer

Areas of Responsibility:

Design (both detail and overall concept) of equipment for the food, pulp and paper, rendering and feed milling industries.

Specific machinery worked on was, screw conveyors and augers, bucket elevators, steam heated disk drier, hygienic -dense phase pneumatic conveyor diverter valve, chicken chiller, pulp drying and distribution system, pine chip blowing system. Preparation of specifications, detail and layout drawings for the above systems. Preparation of operation and maintenance instructions for various pieces of equipment.

ENGINEERING DESIGN, Ayr, North Queensland

January 1982 to March 1983

Position Held: Engineer

Areas of Responsibility:

Design of materials handling equipment, dust control systems, drying & aeration systems, bulk storage systems. Specification, purchasing, installation and commissioning of machinery for the rice storage and milling industry.

Specific machinery worked on was, bulk receivals pit and feeder, bucket elevator, distribution screw conveyor, grain storage silos, silo aeration system, lean phase dust handling system , centrifugal fans, cyclone separators, rotary valves

Toured USA and Canada, visiting rice mills, engineering companies and Universities. Studied grain harvesting, handling and drying.

TASMAN ENGINEERS, Gladstone, Queensland

August 1984 to April, 1986

Position Held: Partner

Areas of Responsibility:

Development design and drafting of belt conveyor "Pop-Up Tripper" mechanism for the main discharge conveyor at Clinton coal facility. Design/ supply of pneumatic conveyor systems for

rice hulls collection. Detailing of civil/ structural steel for workshop fabrication. Preparation of spreadsheets for job costing analysis.

Analysis and control of cashflow budgets.

HEAT & CONTROL PTY LTD – GREER DIVISION, Brisbane, Queensland

April 1986 to June 1988

Position Held: Research and Development Engineer

Areas of Responsibility:

Research and Development, Layout and Design associated with continuous food processing and packaging systems. Design and testing of atmospheric burner systems to comply with Australian Standards. Layout and design of continuous potato processing and packaging systems. Vertical form fill and seal machine feed system design. Continuous fryer and continuous drier layout, design, construction, installation and commissioning.

POLYFLO PTY LTD, Brisbane, Queensland

July 1988 to October 1989

Position Held: Business Operations Director

Areas of Responsibility:

Business Management and Planning, Research and Development of vibratory conveying and processing machinery. Development of machinery from concept through design to installation for external clients in the building products industry. Project management of a new mechanical installation for nut processing. Cash flow budgeting, accounting, job costing, estimating, planning and sales.

NEOTECH DESIGN, Brisbane, Queensland formed in 1989

NEOTECH INDUSTRIES PTY LTD incorporated in June 1993

October, 1989 to present.

Position : Managing Director

Areas of Responsibility: Research and development of various processes and machinery.
Total project management from concept to finished product.

Projects include:

- development of machinery for the industrial refrigeration industry

- development of software for predicting coal flow in chute systems
- design and detailing of complex three dimensional transfer systems for the coal handling industry
- design of transfer systems for long wall mining underground conveyors
- development of reversing conveyor loading system for Clinton coal facility
- writing of specification and application for patents of previous system, writing of confidentiality and non-disclosure agreements
- the mechanical component of a feasibility study for various fruit & vegetable processing plant
- design of various machines and systems for the food processing and materials handling industries
- project management of design, development, manufacture, installation and commissioning of high pressure water jet cutting system components & dragline bucket components for the mining industry
- training of technical and management staff in the use of solidworks & photoworks 3D CAD & visualisation systems
- electrical enclosure design automation
- design and manufacture of press for polyurethane panel manufacture
- design of pressure vessels for polyurethane manufacture
- design and manufacture of press for large screw helix manufacture
- design of heavy machinery for installation of screw piles
- design of instrumentation for torque and tension measurement of screw piles
- design of equipment for aeration of green sand in a foundry
- mechanical design of screw conveying systems for handling food products
- mechanical design & supervision of manufacture for pet food cooker mixer
- design and layout of various food manufacturing facilities to incorporate safety, ergonomics, hygiene, cleaning, work flow & access. Compliance with GMP, AQIS and TGA requirements
- design manufacture and commissioning of vibratory distribution & conveying, length & size grading system for the nut industry
- mechanical design and commissioning of mechanical systems for filling food products into tubs and trays
- design and commissioning of conveying system for handling food products in trays, tubs, cartons, cans & bottles
- design manufacture and commissioning of vibratory bag and carton shaker systems
- mechanical design and development of mechanical systems for scanning, weighing, labelling, sorting product in the food industry
- layout, design and development of cable, belt, screw, pneumatic, conveying systems for complete chicken processing factory
- mechanical design & supervision of manufacture for pneumatic conveying, feeding systems and juice filtration system
- mechanical design & supervision of manufacture for refrigerated snow machine
- industrial winch design & supervision of manufacture
- revolving mirror photometer design & supervision of manufacture
- design, nonlinear finite element analysis of polymer mooring lugs

FOODSTREAM PTY LTD incorporated in Nov 2005

November, 2005 to present.

Position : Director

Areas of Responsibility: Product and process development

Projects include:

- feasibility studies for various fruit & vegetable processing system ie semi-dried fruit, fresh cut fruit and vegetables, juice extraction and concentration, pet food manufacture.
- process design and specification for various food processing systems including process flow, mass and energy balance, P&ID development, equipment sizing and specification
- design, specification and layout of various food manufacturing facilities to incorporate safety, ergonomics, hygiene, cleaning, work flow & access. Compliance with GMP, AQIS and TGA requirements
- design & supervision of manufacture of a fluidised bed tea dryer, including fans, coils, ducts, support and access structure
- design and commissioning of mechanical systems for filling food products into tubs and trays, including tooling design and supervision of manufacture and compile operations manuals
- design, nonlinear finite element analysis and rapid prototyping of various new packaging products
- commissioning of hot fill juice system for small scale production.
- design and commissioning of pilot systems for steaming, blanching and pasteurising bamboo shoots
- design and commissioning of mango peeler, slicer, cupper
- Technical Audits of major food manufacturing facilities in Australasia.