



Engineering and Technology



TERRAFIRMA TECH SERVICES LLP



+91-8149703474
+91-8766908303



surendra@terrafirmatech.in



B-301, Sai Kimaya, Balewadi, Pune,
Maharashtra, India-411045



WHO WE ARE

TerraFirma Tech Services LLP is an engineering & technology company managed by highly experienced engineering professionals. It is incorporated in 2023 & operates from its office located at Pune, India. At TerraFirma we perform Design and engineering for Industrial plants as well as supply of process equipment for such plants.

OUR MISSION

Our mission is to serve customer with **ONE STOP ENGINEERING SOLUTION** for their all-technical needs and requirements.

We are equipped with necessary resources to deliver best services in all areas of plant engineering. We have experienced team of engineers from different disciplines like Chemical, Mechanical, Piping, Electrical, Instrumentation, Civil & Structural & Project Management.

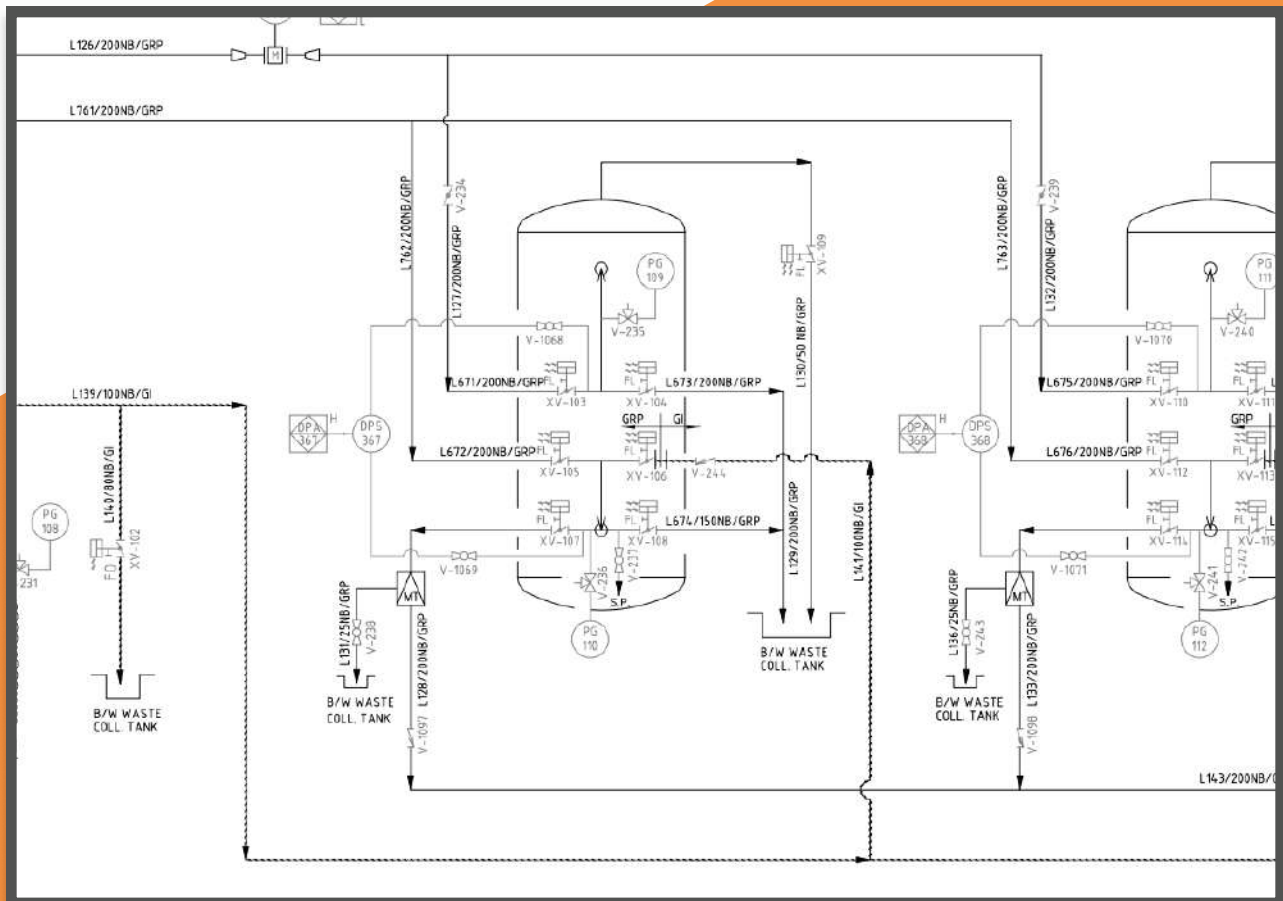
WHAT WE DO?

We serve our customers through three business segments; Design & Engineering Services, Process equipment manufacturing and Execution of Industrial Projects on EPC basis. Below is detailed portfolio of our offering

DESIGN & ENGINEERING SERVICES

Chemical Engineering

- Process Flow Diagrams (PFD)
- Piping and Instrument Diagrams (P&ID)
- Heat and Mass Balance Diagrams.
- Hydraulic Analysis – Pipe Sizing & Pressure Drop Calculation.
- Line List & Equipment List.
- Piping Design Basis.
- Piping Material Specifications.
- Indicative Plot Plan & General Arrangements.
- Technical Specifications & Datasheets of Various Equipment.



Mechanical Engineering

- Pressure Vessels (Boilers, Vessels, Tanks) – Mechanical Design Calculation, Engineering Specifications & Detail Fabrication Drawings as per applicable codes vis. ASME Sec. VIII, IBR, TEMA, EN13121.
- Heat Transfer Equipment (Heat Exchangers Cooling Towers) – Exchanger Simulation, Thermal Sizing & Technical Specifications as per applicable Design codes, Mechanical Design Calculations, Detail Fabrication Drawings.
- Design calculations using software's like PvElite, Compress, HTRI, ASPEN Hysys
- Rotating equipment (Turbine, Pumps, Compressors) Design and Engineering based on project specifications & applicable design codes
- Packaged Items (HVAC, Fire Fighting, Material Handling) Purchase Specification and Datasheets.
- Fabrication Details Drawings of Equipment including BOQ/BOM.



Piping Engineering

- Detailed Piping Material Specifications.
- Design Calculation as per IBR/ASME.
- Piping General Arrangement Drawings.
- Stress/Flexibility Analysis of High Pressure/Critical lines.
- Fabrication Isometric Drawings of Piping.
- Pipe Material Take Off.
- Specification for Piping, Fittings, Valves, Strainers, Expansion Joints etc.
- Pipe Supports Engineering.
- Hangers, Rigid Hangers, Sways, Struts etc.
- Underground Piping Design.



Electrical & Instrumentation Engineering

- Cable Routing, Layout & Detailing of Cable Trays.
Selection of Power & Control Cables.
- Instrument Schedule & Datasheets.
- Control Room Layout.
- Purchase Specifications of Motors, Transformers, Switchgears, etc.
- Purchase Specification of Field Instruments, Instrument Cables etc.



Civil & Structural

- Design & sizing of Structural elements required for the application.
- Preliminary Manual Calculations of Structure.
Structural Analysis using STAAD Pro.
- Foundation Design.
- Foundation Layout Drawing.
- Structural Fabrication Detail Drawings.



3D MODELLING

- 3D Modelling services for greenfield as well as brownfield projects.
- Available software's are SP3D, CAD Works, Auto Plant, PDS, PDMS
- Latest versions are available for all above software's.
- Experienced engineering resources available.

EQUIPMENT MANUFACTURING

We design, manufacture and supply process equipment for domestic as well as international customers. Our associate company have state of the art manufacturing facility spanning over 50000 Sq. Feet covered fabrication area with separated work spaces for stainless steel and Carbon Steel materials and 150000 Sq. Feet open fabrication yard. We have signed MOU with our associate company to fabricate our equipment with priority delivery and required fabrication quality. Below is the list of equipment fabricated at our associate company.

- Pressure Vessels
- Reactor vessels- Half pipe & full pipe jacketed vessels
- U Tube Heat Exchangers, Condenser, Evaporators
- Fixed & floating tube heat exchangers
- Distillation column, Scrubbers
- Shop fabricated steel storage tanks
- Stainless Steel & Carbon Steel
- Static Mixers
- Glass Lined Storage Tank
- Shop fabricated FRP / GRP storage tanks
- Agitators & Mixers
- ANF & ANFD
- RO & UF Skids
- Dosing Skids



INSPECTION SERVICES

We provide third party inspection services for plant equipment. We attend & certify the various inspection activities on behalf of our customers.

Our Inspection Engineers have more than 20 years of professional experience. They are highly trained & certified with required certifications in the subject matter. Allied services as below:

- ITP/QAP preparation
- Inspection from raw material identification test to equipment packing & shipping clearance.
- ASME U Stamp Certification documentation.
- Quality manual preparation.
- Inspection formats preparation.
- WPS/ PQR preparation.



PROJECT MANAGEMENT

Flawless project management is a key for success of any project. We have highly experienced project Managers for planning right at first time. Below is the structural way outlined for a successful project execution.

- Project Cost Estimation.
- Project Initiation and project set up.
- Project Planning and Scheduling.
- Project Monitoring & Co-Ordination.
- Technical Evaluation of Vendors & Procur
- Expediting Services.
- Project closeout.



EPC – INDUSTRIAL PROJECTS

We execute industrial projects in various industry sectors like Oil & Gas, Chemical, Pharmaceutical, FMCG, Power Plant, Water Treatment etc. We have a strong multi-disciplinary project execution team based at our Pune Office. We do both Greenfield as well as brownfield projects for various industries. Concept to commissioning is our business motto & we ensure flawless & timely completion of project. Below are some examples of EPC base projects: -

Chemical Plants

- CIP System
- LPG/ CNG Gas Metering skids
- Crude Oil Metering Skids
- Solvent recovery Evaporation plant
- Pack Distillation & continuous distillation
- Plant-with trays or structured packing
- Solvent extraction plant
- Azeotropic distillation plant
- Liquid –liquid extraction plant



Water Treatment Industry

- Sea Water Desalination Plant
- Reverse osmosis & Ultra filtration Plant
- Zero Liquid Discharge (ZLD) Plant
- Soft Water Plant
- De-mineralize water Plant
- Effluent Treatment Plant and Sewage Treatment Plant

