

CONSULTANCY SERVICES



We provide process & project engineering consultancy services to chemical, biopharmaceutical, fermentation & industrial biotechnology industries.

The range of services offered by us covers the entire gamut of process & project engineering, & the various activities carried out by us are listed below:

- Co-ordination for process know-how & technology transfer
- Interaction with the process inventor for process development & scale-up of laboratory data for commercial application
- Site studies (site identification, location & layout planning)
- Basic design & detail engineering
- Process design & mechanical design of equipment systems, with instrumentation
- Procurement, construction supervision & start-up
- Testing & commissioning of plants & equipments
- Project management
- Process engineering for cost reduction, efficiency improvement & energy conservation
- Recruitment & training of personnel in operations & maintenance
- Complete execution of projects on a turnkey basis

We specialize in providing consultancy services in the field of industrial fermentation, & our specific areas of expertise are:

- Design of complete fermentation plants, including culture laboratories & utility services, for a wide variety of fermentation processes such as antibiotics, vaccines, vitamins, steroids, acids, biofertilizers, biopesticides, etc.
- Design of large scale submerged fermentors & associated sterile/non-sterile equipments for mycelial, actinomycete, yeast & bacterial fermentations
- Prevention & control of contamination, including getting rid of all types of contamination in existing plants, i.e. yeast, phage, bacterial & cross contamination
- Design of aseptic transfer pipelines, with sterile sections & steam locking arrangement, for long-term contamination-free performance

- Design of fed batch, repeated (cyclic) fed batch, & continuous (chemostat) fermentation systems, for laboratory, pilot plant or commercial scale operations
- Design of automatic aseptic feed dosing systems with feed flow measurement for fed batch fermentations
- Design of appropriate process control instrumentation systems for various fermentation parameters such as temperature, aeration, agitation, pH, DO, level, foam, exhaust gas, etc.
- Design of automatic media sterilization, either in-situ or external (i.e. through continuous media sterilizer)
- Design of air filtration systems
- Troubleshooting of fermentation processes from laboratory to commercial scale
- Planning of plant revamps including stagewise phasing out of outdated equipments & induction of new equipments
- Planning & supervising periodic maintenance shutdowns (total or partial shutdowns) in existing plants, to ensure minimum loss of productivity & minimum downtime of equipments

We augment the designing & planning work by undertaking the following activities:

- Purchase assistance including vendor identification, drawing up of equipment specifications, tender enquiry & tender evaluation
- Stagewise inspection of equipments during fabrication/manufacture
- Supervision of erection & commissioning of the plant & machinery
- Training of plant engineers & technicians in carrying out sterile process operations
- Complete assignments on turnkey basis for project execution of fermentation plants, from process/technology selection, process development & basic engineering right up to erection & commissioning of the plant
- Co-ordination for productivity improvement between source(s) of technology & operating personnel, implementation of productivity improvement program at the laboratory or pilot plant scale, scaling-up of results on commercial scale, & establishment of productivity norms in the plant



Above services provided by :-

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