



PANORAMA

CONSULTING & ENGINEERING INC.

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USA • INDIA



- Design Build- Full EPCMCV Service
- Process Engineering
- Equipment & Process Design
- Mechanical, Electrical, Plumbing and Fire Protection
- CIP/SIP Design & Development
- Project Management
- Integrated Commissioning, Qualification and Validation (CQV) services
- Operations Consulting

PANORAMA is your strategic partner...dedicated to completing projects on schedule... within budget... and without compromising quality

PROCESS ENGINEERING

- Conceptual, Preliminary and Detailed Design
- Process Flow Diagrams & P&IDs
- Process calculations, Simulation and Modeling
- Equipment & Instrument Procurement specifications
- BPE Code Compliance & GMP review
- Sequence of Operations and Control Philosophy
- CIP & SIP design
- Evaluate Technology Options
- Process HAZOP and Safety Analysis
- Skid Design and 3D Review

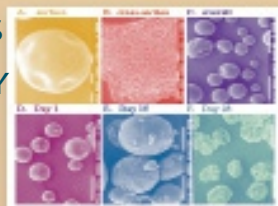


$$\frac{hD_f}{k} = a \left(\frac{L_p^2 N_r \rho}{\mu} \right)^b \left(\frac{c\mu}{k} \right)^{1/3} \left(\frac{\mu_b}{\mu_w} \right)^m$$

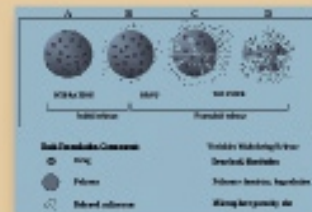
HEAT TRANSFER

We offer services for all phases of project execution: from Conceptual Design to Product Development.

PHARMACEUTICALS
NANOTECHNOLOGY
BIOTECHNOLOGY
MEDICAL DEVICES



FINE CHEMICALS
BULK CHEMICALS
WATER & WASTEWATER
FOOD & BEVERAGES



MECHANICAL

- cGMP and FDA/EU Regulatory Compliance
- Clean Rooms/HVAC
- Building Automation Systems
- BIM Modeling
- BL2/3 Laboratory Design
- Critical Utilities Design
- Vivarium Design
- Facility Assessment



ELECTRICAL

- Building Electrical Distribution
- Site Medium Voltage and Low Voltage Distribution
- Interior/Exterior Lighting Design
- Power Generation Design



PROJECT MANAGEMENT

- Comprehensive Management: CSA, MEP, and Equipment Installation
- Scheduling and Planning
- Project Cost Control and Management
- Bid Package Review and Award Process
- Material Receiving and Handling
- Plant Relocation
- Contractor Coordination including all Final Turnover Documentation
- Utility Sequencing
- Resource Leveling
- E. V. A.

PANORAMA takes great pride in completing projects safely, on schedule, within budget, and without compromising quality. Our track record for excellence is reflected in all aspects of engineering, safety, construction, commissioning, and validation.

WATER SYSTEMS

- Water Reclamation Systems
- Building Sanitary and Vent Systems
- Process Waste Systems
- Domestic and Process Water Systems
- pH Adjustment systems
- Bio-Waste Decontamination
- Master Planning and Peer Review Services



FIRE PROTECTION AND SAFETY

- Building Code Consulting /Fire Code Analysis
- Clean Agent Suppression Systems
- Automatic Sprinkler Systems
- Fire Pump Design
- Aqueous Film Forming Foam (AFFF) and Deluge Suppression Systems for Tank Farm (vessel) Protection



COMMISSIONING AND QUALIFICATION

- Commissioning Plan
- Automation Test Plan
- Startup and Debug
- Develop and Execute Protocols
- Factory and Site Acceptance Tests (FAT/SAT)
- Passivation Strategy
- Clean in Place (CIP) /Steam in Place (SIP) Cycle Development and Optimization
- Validation Master Planning
- Design Qualification (DQ)
- Qualification (IQ/OQ/PQ)
- 21 CFR Part 11 Compliance
- Cleaning Validation
- Process Validation
- Thermal Mapping
- Regulatory Compliance Management
- ASTM E 2500 Verification approach
- Software Validation



Industries served:

- Pharmaceutical
- Biotechnology
- Higher Education
- Healthcare
- Food and Beverage
- Government
- Industrial
- Chemical
- Semiconductor
- Medical Devices
- Energy and Sustainability

REGULATORY & QUALITY SERVICES

- Quality Systems
- Regulatory Submissions
- Facility Audits
- Phase I-IV Clinical Research
- Batch Certification under FDA Consent Decree
- 483 Redressal



CLIENTS:

ACUSPHERE



AMGEN



genzyme
A SANOFI COMPANY



Lilly

Lonza



sanofi pasteur



P&G
Procter & Gamble



Wyeth®



PANORAMA

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