



G&G TECHNOLOGIES, INC.

LIPID-NANOPARTICLE MIXING



Scale Up with Confidence: Flexible Solutions for LNP Mixing

The introduction of lipid-based nanoparticles has revolutionized the landscape of the biopharmaceutical industry. Our LNP Mixing systems are designed to encapsulate nanoparticles and proteins inside of lipid capsule to protect them from degradation and modify drug delivery. Our systems are ATEX and IEC compliant for use in Zone 2 hazardous spaces. Our skids integrate a variety of pumping technologies, including interchangeable modular pumping heads. Work with our team of engineers to deliver the right solution for your process.

Product Array

- Remote Controlled Skids
- Turn-Key Automated Skids
- Remote Consoles
- Modular G2 Versapump Technology
- Production Scale Systems
- Parallel-Flow High-Flux Systems
- Continuous Single-Pass Systems

Applications

- Vaccines
- Peptides
- Gold Nanoparticles
- Proteins
- Recombinant Molecules
- Nucleic Acids, DNA, RNA, mRNA

Processes

- T-Junction Mixing
- Hydrodynamic Flow Focusing
- Inline Dilution
- Quenching
- Single-Pass TFF
- Secondary Mixing

6 Grandview St.
Coventry, RI 02816
401-295-4000

info@ggtechnologies.com
www.ggtechnologies.com

Process Development Platform

Optimize your bench-top process development with the G2 VersaFlow Modular Pump System. Designed for versatility, this compact, high-precision pump features interchangeable pump modules and seamless integration with a wide range of peripherals, ensuring maximum adaptability for diverse applications.

G&G's expedited consumables delivery enables rapid iteration of process parameters, allowing you to fine-tune mixing dynamics and achieve optimal process performance with minimal downtime.



Modular cGMP Skids

Flexible systems are available which are perfect for contract manufacturers servicing multiple clients. These systems feature modular pumps and sensor assemblies that allow you to change your process scale and technology with minimal downtime for reconfiguration. Remote Consoles are available, allowing you to run your process inside of a fume hood and control the skid from outside of the hood.

cGMP Skids

G&G Technologies' purpose-built cGMP skids are engineered to meet your exact process requirements. Our skids are built for applications in cleanrooms and zone 2 hazardous locations. They are constructed from 304 and 316 stainless steel and cleanroom compatible polymers. Each skid is provided with a full cGMP documentation package including Turnover Documentation, Factory and Site Acceptance Testing and Installation and Operational Qualification.

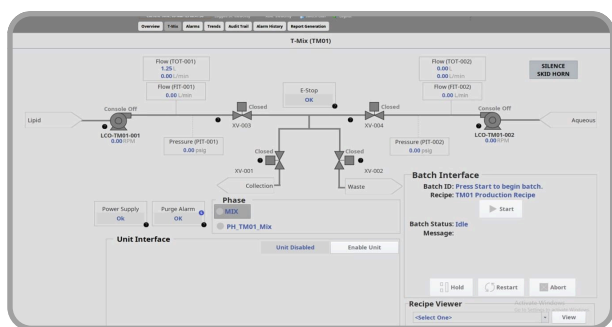


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Features and Benefits

- A Wide Product Array to Facilitate Scale-Up
- Accommodates a wide array of LNP Technologies
- Centrifugal, QuattroFlow, and Peristaltic Pumps
- Custom LNP Mixing Tees
- High Quality Single-Use Assemblies
- Low-Holdup and High Yield
- Secure and User-Friendly Software
- Integration with a variety of Analytical Sensors



Secure and User Friendly Software

G&G Technologies' turn-key control system automates process control and features user-set recipes, historical trending, batch control, and multiple secure user levels and options for Delta-V and SCADA integration.

Our 21 CFR Part 11 compliant software simplifies data management and traceability, ensuring security and regulatory compliance.

Safe for Use in Hazardous Locations

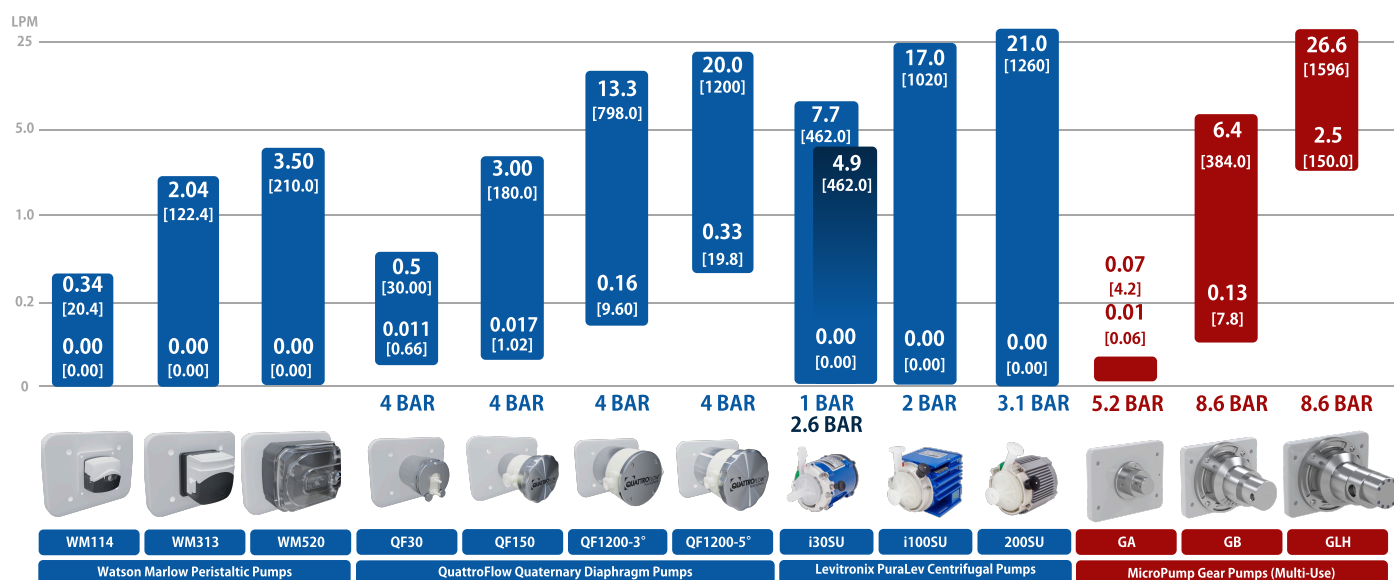
G&G Technologies' cGMP Compliant LNP Mixing Systems are designed for use in Class 1 Div 2 hazardous and ATEX Zone 2 spaces to accommodate common solvents such as ethanol used in the LNP Mixing process.



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PUMP FLOW RATES L/min [L/hr]



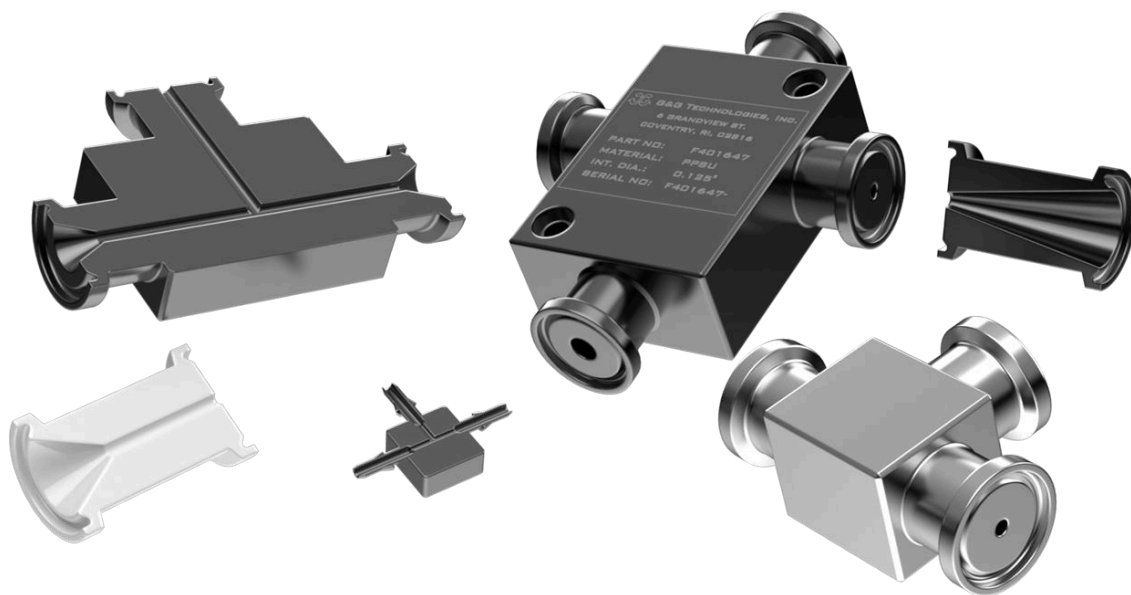
- PRESSURE SENSORS
- FLOWMETERS
- TEMPERATURE SENSORS
- AIR-IN-TUBE DETECTORS
- UV SENSORS
- TURBIDITY SENSORS
- pH SENSORS
- CONDUCTIVITY SENSORS
- LNP MIXING TEES
- PINCH VALVES
- INLINE DILUTION
- PUMP MODULES



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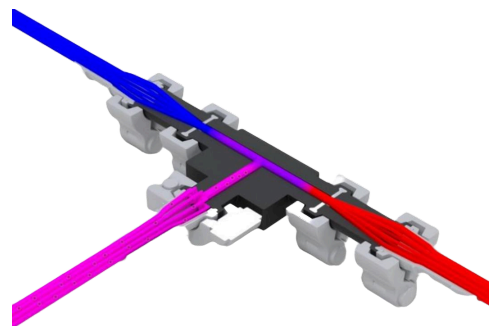
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Lipid-Nanoparticle Mixing Assemblies and Consumables



Custom LNP Mixing Tees

Our mixing junctions are made-to-order in accordance with client specified parameters, ensuring that our tees deliver the same performance as devices used in trial testing. Single-Use LNP Mixing Assemblies ensure that the inside diameter of the flow path smoothly transitions to your mixing tee diameter without sharp step-downs that result in undesirable flow regimes.



Single-Use Assemblies

Our Single-Use Assemblies are assembled in cleanroom facilities certified to ISO 14644-1 with ISO 9001 certified quality systems. The single-use assemblies are sterilized by gamma irradiation at a minimum dose of 25 kGy. The material records are fully traceable and cGMP compliant.



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