

# NanoGenizer-Dual Continuous-Flow System

Enabling Continuous Manufacturing of Nanomedicines / Nanoformulations

Nanoemulsion | Cell Disruption | Nanodispersion | Deagglomeration | Liposome

## Unique Benefits

- **Continuous-Flow Processing:** Upgrades traditional batch processing into multi-stage, programmable continuous-flow homogenization
- **Flexible Dual-Pump Design:** Each pump can run independently, in parallel, or in series to support flexible process development
- **Compact Design:** Bench-top integrated system with a small footprint for laboratory and pilot-scale development
- **Strong:** 6–20 L/hr at 30,000 psi



NanoGenizer-Dual is a dual-pump high-pressure microfluidic homogenization system designed for continuous-flow processing and flexible nanomedicine development. Each pump can operate independently, in parallel, or in series to meet different process requirements.

It upgrades the traditional “homogenization–storage–re-homogenization” batch workflow into a multi-stage, synchronized, programmable continuous-flow process. Materials can be processed continuously through 2–4 stages without intermediate storage tanks or waiting steps, enabling efficient laboratory evaluation of continuous-flow microfluidic process routes.

## Specifications

| Catalog No.     | NanoGenizer-Dual                              | PilotGenizer-Dual/Quad | ProdGenizer-Dual/Quad |
|-----------------|-----------------------------------------------|------------------------|-----------------------|
| Flow rate       | 120mL/min at 30,000psi                        | 30L/hr                 | 100L/hr               |
| Min. Sample     | 30mL                                          | 100mL                  | 300mL                 |
| Max. Pressure   | 30,000psi                                     | 30,000psi              | 30,000psi             |
| Dimensions (cm) | 72 ×43 ×33                                    | ~165 ×90 ×65           | ~175 ×100 ×130        |
| Weight (kg)     | 60                                            | ~350                   | ~800                  |
| Power           | 220V                                          | 380V/440V              | 380V/440V             |
| Max. Temp.      |                                               | 80 °C (176 °F)         |                       |
| Cleaning        |                                               | Flush to clean         |                       |
| Features        | Digital display of pressure or pressure gauge |                        |                       |



Phone: +1(949) 932-0294  
Fax : +1(323) 978-4693  
Email: Nano@Genizer.com  
[http://www.genizer.com/nanogenizer-dual\\_p0044.html](http://www.genizer.com/nanogenizer-dual_p0044.html)

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# NanoGenizer-Dual Series High Pressure Homogenizer

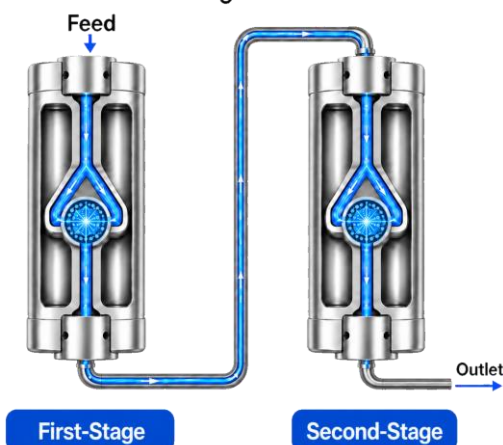


NanoGenizer-Dual

## Standard Features

|                     |                                                                                                                                                                                              |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Parts               | Y-type Diamond interaction chamber with cooling option                                                                                                                                       |
| Control System      | High pressure programming control systems <sup>®</sup> : Touch Screen, Speed control, Auto stop control by time, pressure or temperature, display of flow rate and time, overload protection |
| Pressure Gauge      | Digital display on the touch screen                                                                                                                                                          |
| Inlet type          | 1/4" HP coupling                                                                                                                                                                             |
| Outlet type         | 1/4" HP coupling                                                                                                                                                                             |
| Feed Reservoir      | 300mL S/S Cylinder                                                                                                                                                                           |
| Collector Reservoir | S/S Pipe                                                                                                                                                                                     |
| Product material    | 316L stainless steel, Tungsten Carbide, Viton, Teflon                                                                                                                                        |
| Material standard   | Pharmaceutical Grade, FDA, GMP                                                                                                                                                               |
| Warranty            | 1 year against any manufacturing defects                                                                                                                                                     |

## In-Series Homogenization Schematic



Mechanism

## Available Option

|                            |                                                                          |
|----------------------------|--------------------------------------------------------------------------|
| Parts                      | High Pressure Extruders, Homogenizing valves -Two stages, Heat Exchanger |
| Pump                       | Tri-Pump; Quad-Pump                                                      |
| Compliance                 | SIP/CIP/IQ/OQ/Audit/Explosion-proof optional                             |
| Detector                   | Pressure gauge, Pressure & Temp. transducer up to 8 optional             |
| Outlet type                | Tri-Clamp or Luer                                                        |
| Feed & Collector Reservoir | 10mL, 20mL, 50mL, 100mL, 200mL Syringe, Tank or Online                   |
| Cylinder                   | Titanium High pressure Cylinder (Resistant to strong acid and base)      |



Homogenizing Chamber