



NANOSIZER™ AUTO



Liposomes



Technology



Lipids



Formulation



Manufacturing



R&D



Analytics



Drug Delivery



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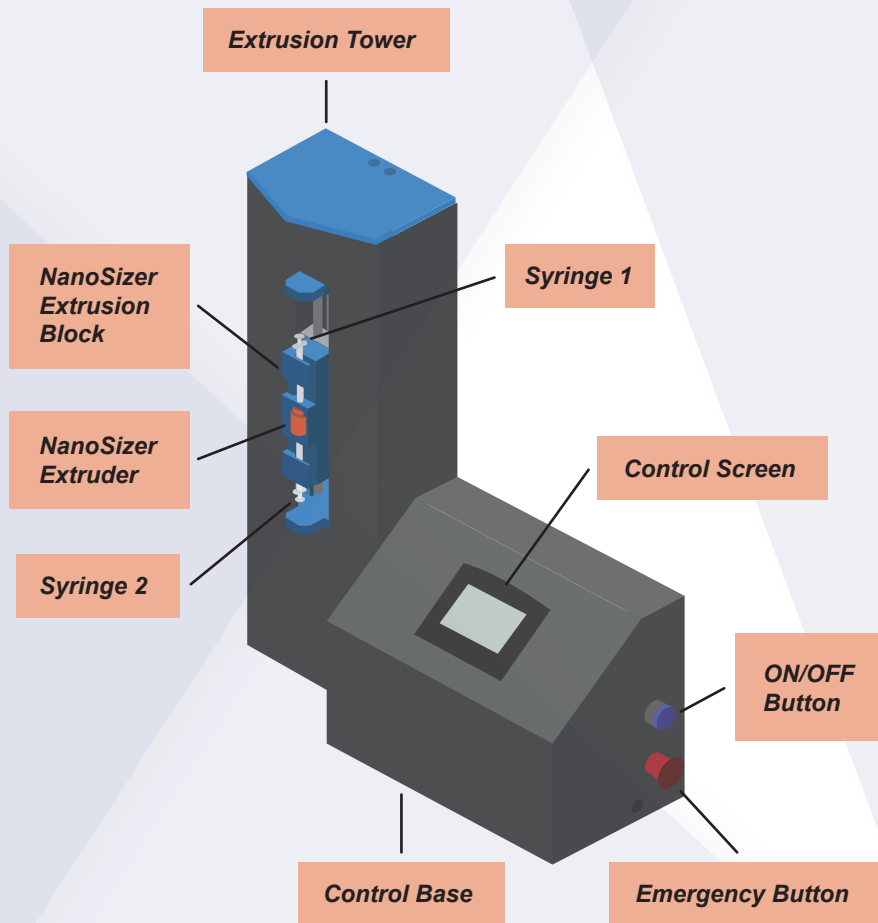
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*The Future of
Liposome Technology*



Overview

The NanoSizer™ AUTO is a fully automated liposome extruder with temperature control capability. This device utilizes the NanoSizer™ MINI with two syringes and needles. You will always work with a completely clean and consistent system every time. NanoSizer™ AUTO has a fully electrical system and works with 120V powerline. It extrudes by moving the extrusion blocks up and down by constant speed after placing the extruder and two syringes into the device.



System Specifications

NanoSizer™ AUTO I

Power	120 V Power
Maintenance	No Maintenance Required
Temperature Range	Room Temperature - 65
# Of Passes Range	Up To 999 Passes
Size	28" X 24"
Weight	48lb
Syringe Size	1ml
Extruder	Nanosizer™ MINI of Your Pore Size
Control	Programmable Logic Controller
Monitor	Touch Screen Unitronic
Motor Type	Schneider Electric

	NanoSizer™ AUTO 1	NanoSizer™ AUTO 10
System	Automated Liposome Extrusion	Automated Liposome Extrusion
Pore Size Available	50nm – 10000nm	50nm – 10000nm
Syringe Size	1mL	1mL, 3mL, 6mL, 10mL
Extrusion Flow Rate	0.1mL – 10mL/min	0.1mL – 10mL/min
Temperature Control	Up to 95°C	Up to 95°C

Getting Started

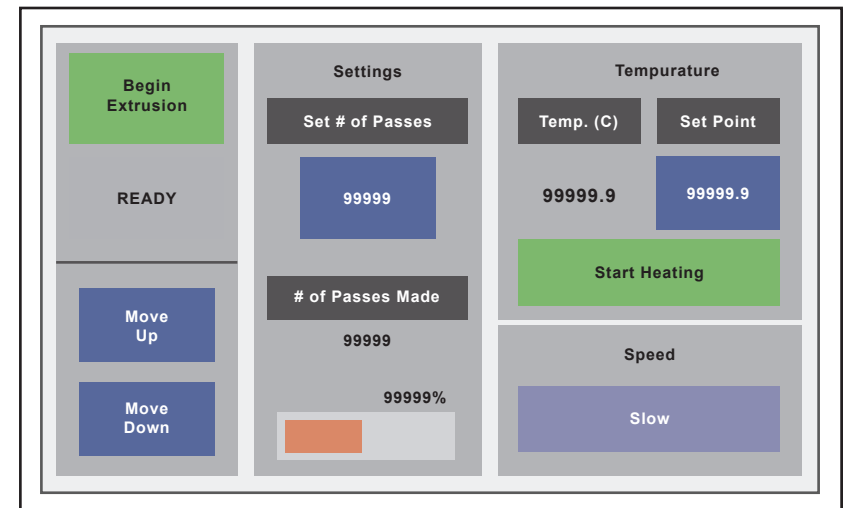
1. Press the blue button to turn on the NanoSizer™ AUTO
2. After the black page the start-up page comes up with T&T Scientific Logo.
3. Press any key to proceed to the main screen.



Setting Up

1. First place the extruder into the extrusion block.
2. Open two syringes and needles and tighten the needles into the syringes very firmly.
3. Place an empty syringe to the bottom slot of extruder block.
 - a Move the block up, using the “Move Up” Button on the screen, if a space for placing the syringes, needed.
 - b Make sure to fully insert the needle into the extruder.
 - c Turn the end of the syringe barrel to fix it into the block.
4. Draw the solution into the second syringe (up to 1mL).
 - a Move the block down to provide space for the second syringe.
 - b Make sure to fully insert the needle into the extruder.
 - c Turn the end of the syringe barrel to fix it into the block.

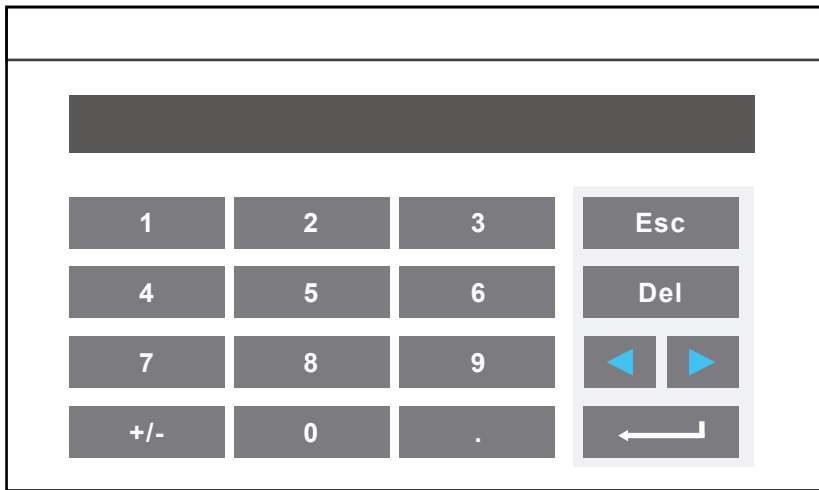
Main Screen Indicators



Begin Extrusion	You Can Start and Stop Extrusion Using This Button
Extrusion Status	Indicates the Status: Extruding or Ready
Move Up / Move Down	Moving the Extrusion Block Up for Placing or Taking Out the Syringes (Only Works In “Ready” Status)
Set # Of Passes	Before Starting Extrusion, The Number of Passes Can Be Set Up (31 Passes Recommended),
# Of Passes Made	Live Indicator of Number of Passes Completed
Progress Bar	Visual Bar and Percentage Progressed Process
Measured Temperature	Live Indicator of Current Temperature of Extrusion Block
Set Point Temperature	The Temperature of The Block May Be Set Before or During the Extrusion Process
Start/Stop Heating	The Temperature Turns On or Off by this Button
Speed	The Speed Changes to Slow or Fast, using this button. Slow speed is recommended for most applications.

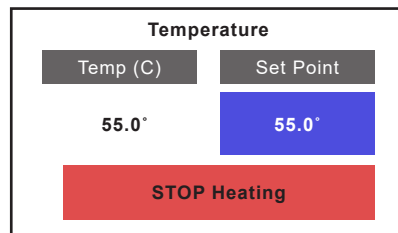
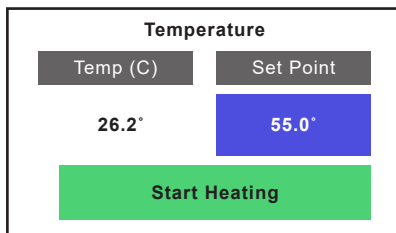
Protocol of Use

- Set Point (SP): Desired Temperature
- Set # of passes (for extrusion)
- # of Passes Made (i.e., to reset/adjust # of Passes Made)

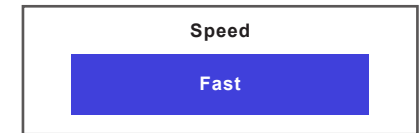
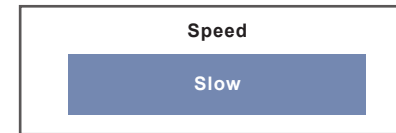


1. Press on the set temperature if higher room temperature needed for extrusion.

- Press your desired extrusion temperature.
- Press the enter button to select the desired temperature.
- Press "Start Heating".
- Wait until the temperature reaches to the desired temperature.
- The heating can be stopped by pressing "STOP Heating" Button.

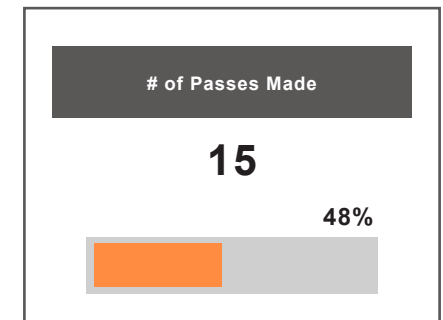
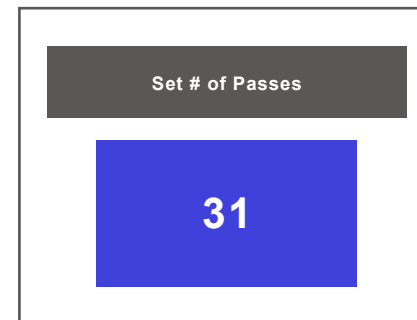


- Select the desired the extrusion speed. This feature can be modified during the extrusion process as well. The constant default speed of slow is recommended.



3. Press the button under "# of passes"

- Select the desired number of passes
- Press Enter
- The number of passes made during the extrusion can be seen in "# Passes Made".

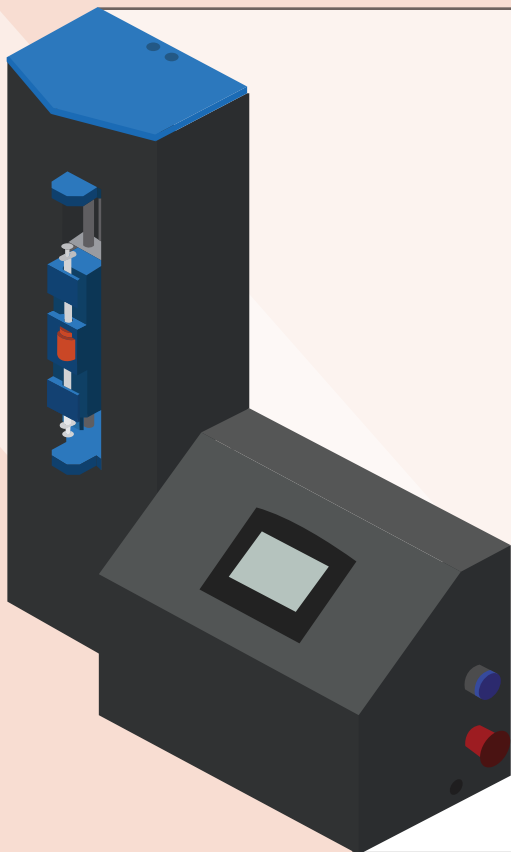


4. Press start extrusion

- The first two passes are slow for calibration purposes.
- After that the extrusion speeds up to your desired speed (slow or fast).
- You can change the speed by pressing on the button under the "Speed".
 - Speed will change after completing the current pass.
 - Default speed of extrusion is slow which is recommended speed.
 - The speed can be also changed during the runs.

5. After the extrusion ended, take the extruded syringe out then withdraw it to the desired vial.

6. Dispose the extruder and syringes.



Fully Automatic Extrusion Systems



Temperature Control



Touch Screen Controller



Flow Rate and Speed Control



Controlled Number of Passes



Force and Pressure Measurement



Consistent



Easy



Controlled



On-Site Delivery



1-Year Full Warranty



Training



NOTE:

- In a case of emergency, you can completely shut down the device electricity using the red button on the right side of the device
- "Move Up" and "Move Down" buttons are inactive during the extrusion process.
- You can stop extrusion any time during the extrusion process, it will stop after you pressing stop extrusion button.