



## TYD02-01 Laboratory Syringe Pump

- Lead Fluid TYD02-01 syringe pump adopts integrated table model design, 5 inch HD LCD touch screen display and operation, can assembly 1 plastic syringe or gas tight syringes, size range of syringe 10 $\mu$ L ~ 140mL, flow range 0.184nL/min ~ 173.718mL/min.
- Use excellent control system and precision mechanical structure, linear travel accuracy  $\leq \pm 0.35\%$ , multiple working modes are available, powerful function It is very suitable for high precision micro-transmission of various fluids in scientific research and experiment.
- Drive screw fixation using high strength aviation bearing, compared with traditional copper sleeve bearing, the service life of the screw has been significantly improved, and the accuracy is higher.
- Strong Anti-EMI performance, continuous and stable operation under high voltage electrostatic field.
- RS485 communication, compatibility MODBUS protocol, automation control system can be composed of computer, PLC, single chip computer etc. multiple host computers.

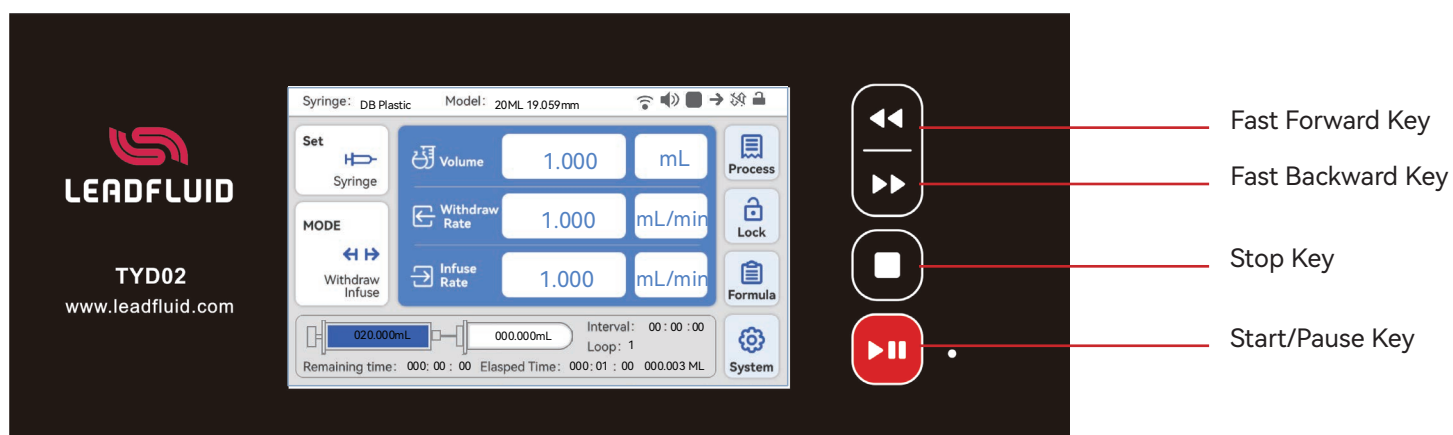
### Feature

- **Display and Operation**  
5-inch high resolution color LCD touch screen, convenient operation.  
Support screen lock, key mute operation.  
Button with indicator light, clearly working state.
- **Multiple Working Modes and Syringes Support**  
Built-in multiple syringe manufacturers and specifications, while supporting customized syringes, making them more flexible and diverse.  
Including five working modes, including infuse and withdraw, to meet different experimental operation requirements.
- **High Precision Control and Safety Protection**  
Pre store multiple sets of data, meet high-precision control requirements  
Syringe protection and traffic jam alarm function to ensure the safety and reliability of the experimental process.
- **Communication and External Control**  
RS485 communication, support the MODBUS protocol, makes communication and remote control more convenient.  
External control signal controls Start and Stop, Direction, Physical isolation of External Control Signals.
- **Applicability and Convenience**  
Made of plastic housing, suitable for various experimental environments.  
Support wide range of power input, making it more flexible and easy to use.  
Multiple convenient designs, such as screen lock and button mute, make the experimental process smoother and more efficient.

## Technical Parameter

Parameter	TYD02-01
Work Mode	Infuse,withdraw,infuse /withdraw,withdraw/infuse,continuous mode
Channels	1
Maximum stroke	140mm
Stroke resolution	0.156um/ustep
Linear Velocity	1um/min -150mm/min
Syringe size	10uL-140mL
Flow Range	0.184nL/min(10uL) - 173.718mL/min(140mL)
Linear Thrust	>20kg, adjustable
Stroke Control Accuracy	Error±0.35% (when working stroke >30% of whole stroke)
External Control	External signal controlled start/stop with status signal output.
Adjust Method	Mask key + touch screen operation
Operation Method	Mask key + touch screen operation
Display	5-inch high-resolution color LCD touch screen
Communication Interface	RS485 communication interface, MODBUS protocol
Power Supply	AC 100-240V 50Hz/60Hz
Wattage	<30W
Working Environment	Temperature 5- 40°C, relative humidity<80%
Dimension	290*208*187.5mm
Weight	4.95kg
IP Grade	IP31

## LCD Screen

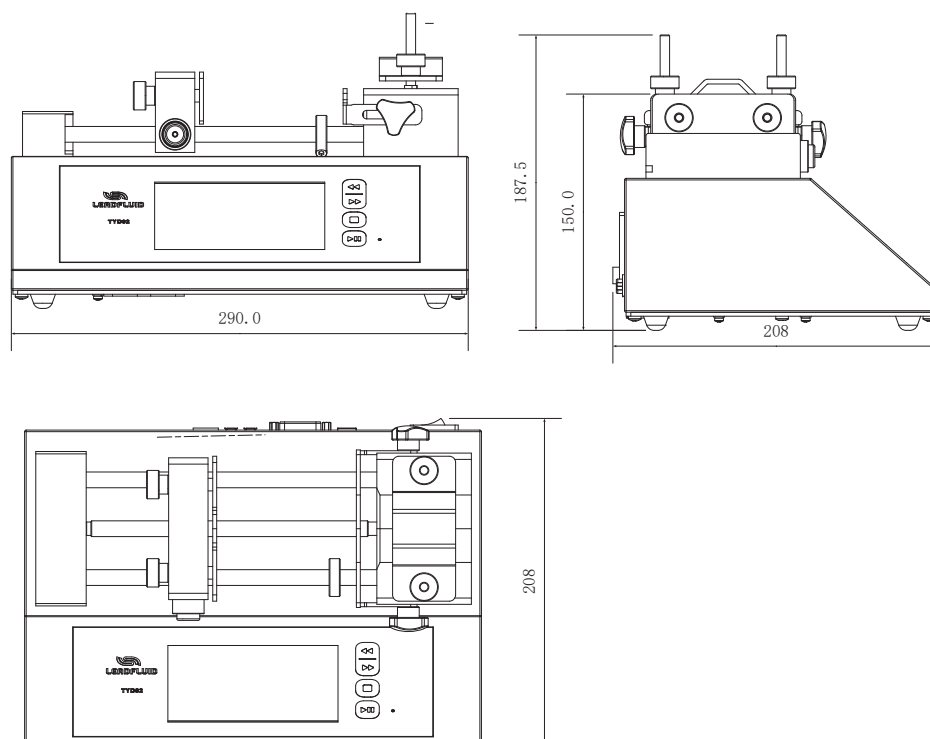


## Reference Table of Syringe Specifications and Flow Rate

Syringe size	Syringe ID (mm)	Min flow rate(nL/min)	Max flow rate(mL/min)
10 $\mu$ L	0.485mm	184.00pL/min	27.711 $\mu$ L/min
25 $\mu$ L	0.729mm	417.00pL/min	62.608 $\mu$ L/min
50 $\mu$ L	1.03mm	833.00pL/min	124.984 $\mu$ L/min
100 $\mu$ L	1.457mm	1.667nL/min	250.092 $\mu$ L/min
250 $\mu$ L	2.304mm	4.169nL/min	625.383 $\mu$ L/min
500 $\mu$ L	3.256mm	8.326nL/min	1.248mL/min
1000 $\mu$ L	4.608mm	16.676nL/min	2.501mL/min
1mL	4.699mm	17.342nL/min	2.60mL/min1
3mL	8.585mm	57.885nL/min	8.682mL/min
5mL	11.989mm	112.890nL/min	16.933mL/min
10mL	14.427mm	163.469nL/min	24.520mL/min
20mL	19.05mm	285.027nL/min	42.754mL/min
30mL	21.59mm	366.090nL/min	54.913mL/min
50mL	28.998mm	555.459nL/min	83.318mL/min
60mL	28.998mm	555.459nL/min	83.318mL/min
100mL	35.7mm	1000.982nL/min	150.147mL/min
140mL	38.4mm	1158.117nL/min	173.718mL/min

Above flow parameters are obtained by using silicone tube to transfer pure water under normal temperature and pressure, in actually using it is effected by specific factors such as pressure, medium etc. Above for reference only.

## Dimension (mm)



Statement: The final explanation right of above information belongs to Lead Fluid.