



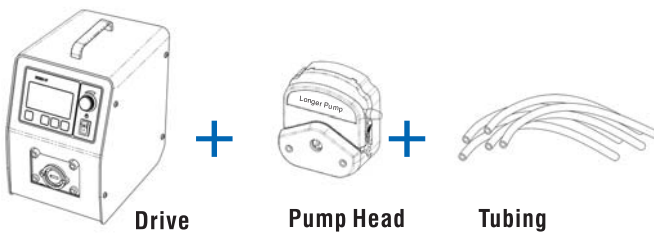
Company Instruction

- Founded Date: Dec. 11, 1997
- Company Type: Foreign owned
- Company Development Direction: Precision Liquid Delivering & Handling Equipment
- Company Quality Certificate: ISO9001
- Company Majority Products:
 - Laboratorial Peristaltic Pump, Industrial Peristaltic Pump, Dispensing and Filling Peristaltic Pump System, OEM Peristaltic Pump, Laboratorial Syringe Pump
 - Industrial Syringe Pump, Dispensing and Filling Syringe Pump System
 - Laboratorial Gear Pump
 - Liquid Working Station, Dilutes & Dispensers System
 - Relative Accessories
- Company Products Safety Certificate: CE
- Company Intellectual Property Rights: Patent and Software Copyright
- Company Website: www.longerpump.com www.lgpump.com.cn
- Company Branch Office: Shanghai Branch Office, USA Branch Office.

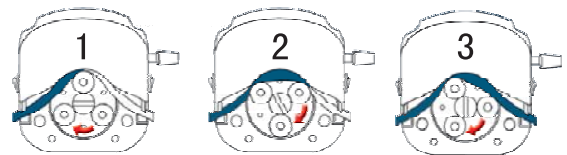
Company Mission

- Excellence because of profession: Longer only develops precision pumps
- Progress because of concept: Innovation and Precision
- Growth because of system: Perfect system results in success.

A Complete Peristaltic Pump



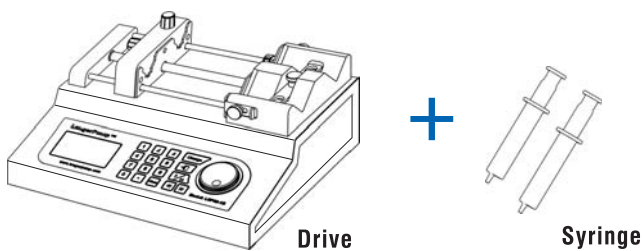
Peristaltic Pump Working Principle



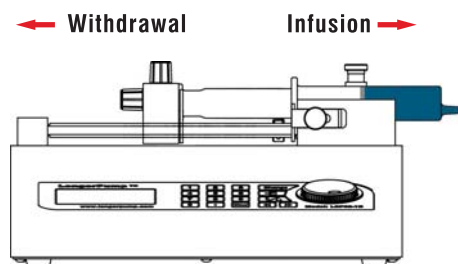
Peristaltic Pump Features

**Non-contamination, easy to clean,
Low-shear, low maintenance**

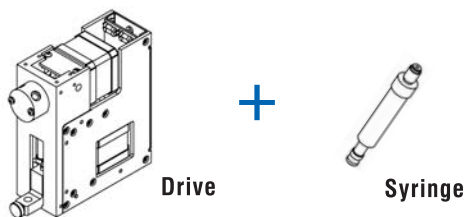
A Complete Laboratorial Syringe Pump



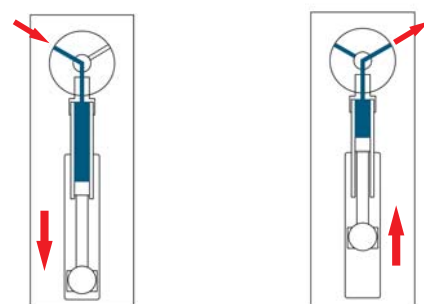
Laboratorial Syringe Pump Working Principle



A Complete Industrial Syringe Pump



Industrial Syringe Pump Working Principle



Syringe Pump Features

Pulseless, easy to clean, accurate flow rate

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LSP01 - 1BH



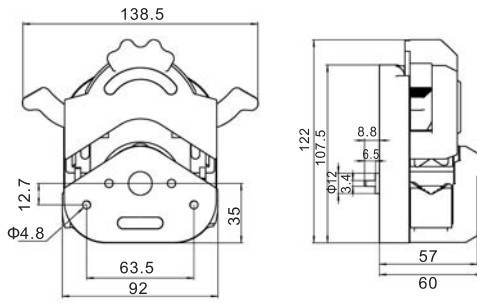
WT600-4F

Easy-load Pump Head

YZ II 15(YZ II 25)

Patent No.:200620026529.1.

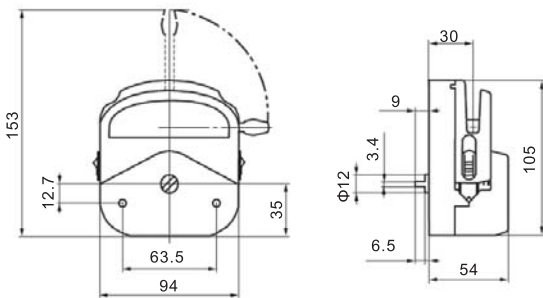
Change tubing easily and rapidly; Compact size. The tubing retention set is a linkage, It is convenient to load the tubing; Accept several tubing sizes for a wide flow range; The rollers adopt high quality materials and has good wearing property; The housing material is PESU. It has perfect rigidity and structure property. It is stable and autoclavable (200°C)



PESU

YZ1515x(YZ2515x)

Change tubing easily and rapidly; Automatic tubing retention; Suitable for several tubing sizes; The rollers adopt high quality materials and has good wearing property; The housing of the pump head has perfect rigidity and structure property, and its materials are PESU or PPS which are stable and autoclavable (200 °C)



PESU



PPS

Tubing Loading Procedure



1 Rotate two levers according to the arrow direction to open pump head.



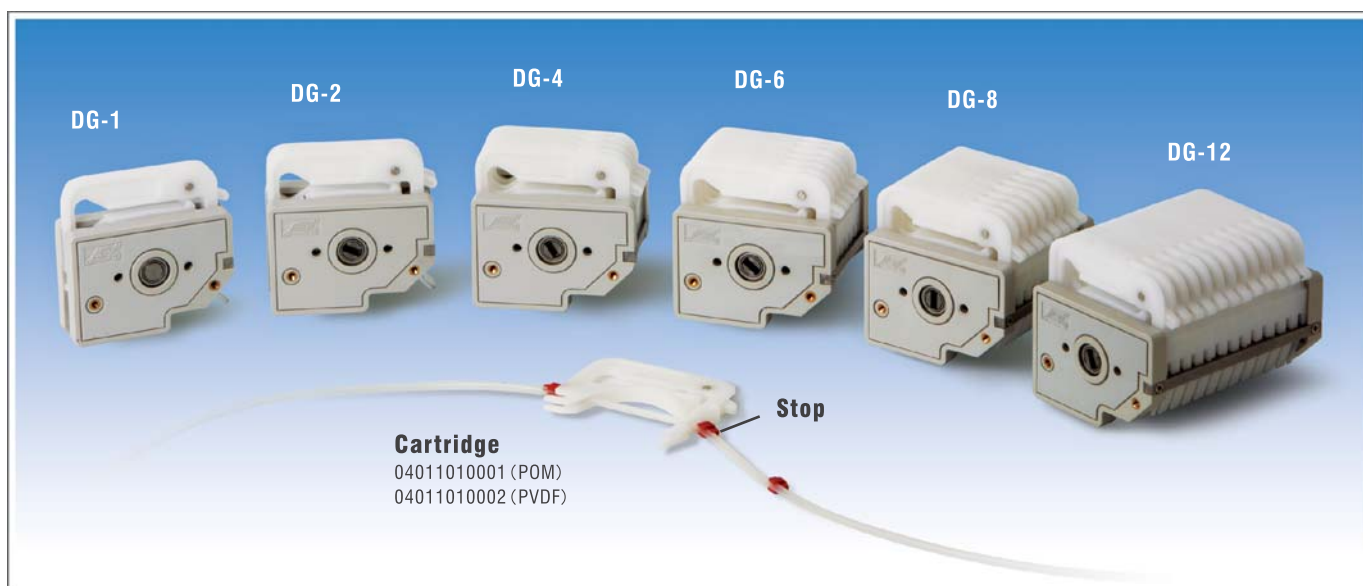
2 Load the tubing



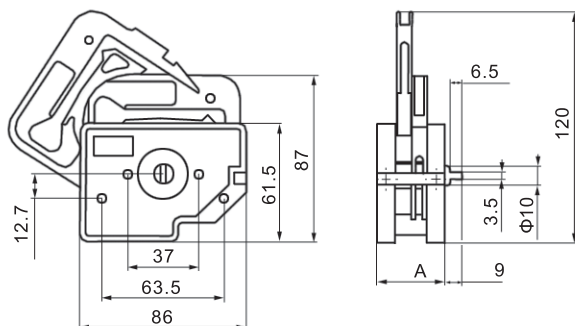
3 Rotate two levers according to the arrow direction to close the pump head.

Type	Tubing	Max. flow rates (mL/min)	Speed (rpm)	Housing Material	Rollers Material	Rollers Quantity	Part Number	Weight (kg)
YZ1515x	13" 14" 19" 16" 25" 17" 18"	2200		PESU	SS	3	0501521	0.4
				PPS			0501522	
YZ2515x	15" 24"	1600	≤ 600	PESU	SS	3	0501531	
				PPS			0501532	
YZ II 15	13" 14" 19" 16" 25" 17" 18"	2200		PESU			0501552	0.35
YZ II 25	15" 24" 35" 36"	3000					0501562	

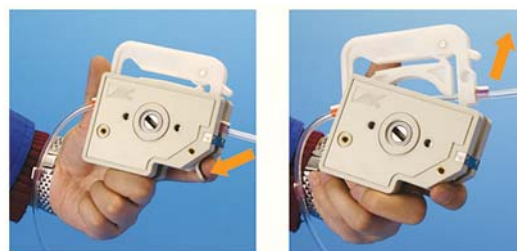
Micro Flow Rates Multi - channel Pump Head



PUMP HEADS



DG-1, DG-2 Trigger Operation



Features

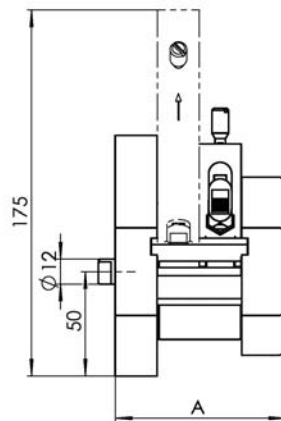
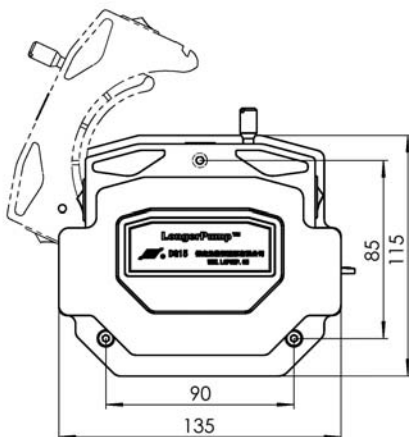
- Multi-channel transfer
- Change tubing easily
- Fix tubing easily
- Occlusion can be adjusted slightly by ratchet wheel to meet different tubing wall thickness requirements.
- 6-roller and 10-roller pump heads available.
- More rollers reduce pulsation and flow rates slightly.
- Skillful trigger design, convenient to open the cartridges (DG-1, DG-2)
- Rollers adopt 316 stainless steel which has chemical resistance to organic solution, acid and alkali.

Introduction

DG series pump heads are designed for small flow rates, multi-channel fluids transfer. Easy to change and fix the tubing. Occlusion can be adjusted slightly. The rollers adopt high quality materials. The pump head consists of base, rotor assembly and easily dismantled cartridge.

Type	Tubing	Max. Flow Rates (mL/min)		Speed (rpm)	Cartridge Material	Part Number		Weight (kg)	
		6 Rollers	10 Rollers			6 Rollers	10 Rollers	6 Rollers	10 Rollers
DG - 1	Inner Diameter ≤ 3.17 mm Wall Thickness 0.8 - 1 (mm)	48 (per channel)	32 (per channel)	≤100	POM 04011010001	0501101	0501102	0.21	0.20
DG - 2						0501111	0501112	0.27	0.26
DG - 4						0501121	0501122	0.40	0.39
DG - 6						0501131	0501132	0.54	0.51
DG - 8						0501141	0501142	0.67	0.63
DG - 12						0501151	0501152	0.95	0.88

Medium and Small Flow Rates Multi-channel Pump Head



Pump Head Type



DG15 - 24



DG15 - 28



DG15 - 48

- DG15 - 24: 2 Channels 4 Rollers
- DG15 - 28: 2 Channels 8 Rollers
- DG15 - 48: 4 Channels 8 Rollers

Features

- Cartridges and base can be separated. It's convenient to load the tubing
- Suitable for several tubing sizes for a wide flow range
- Occlusion can be adjusted slightly to meet different tubing wall thickness requirements
- The material of the roller is stainless steel
- The material of the cartridge working surface is POM. It has perfect self lubricating property to reduce tubing wear abrasion

Introduction

Patent No.: ZL 200520026479.2

DG15 series pump heads are designed for medium and small flow rates, multi-channel fluids transfer. Easy to change and fix the tubing. Occlusion can be adjusted slightly. The rollers adopt high quality materials. The pump head consists of base, rotor assembly and easy-to-load cartridges.

Type	Tubing	Max. Flow Rates (mL/min)	Speed (rpm)	Cartridge Material	Rollers Material	Rollers Quantity	Part Number	Weight (kg)
DG15 - 24	16" 25" 17"	1800	≤ 600	POM	SS	4	0501162	0.82
DG15 - 28	Inner Diameter ≤ 3.17mm Wall Thickness 0.8 - 1 (mm)	75	≤ 100			8	0501172	0.67
DG15 - 48						13" 14"	8	0501182

Standard Pump Head

Classical



Tubing loading Procedure



A
Disassemble pump head, load tubing.



B
Use the loading key to ensure tubing alignment and tension.

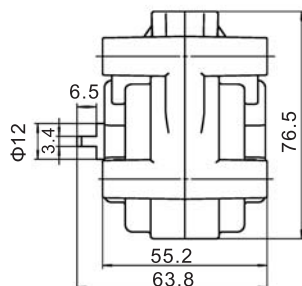
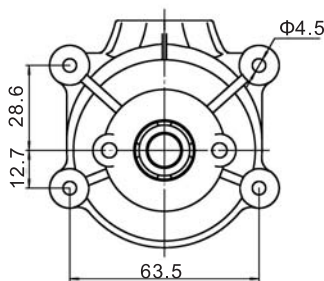


C
Close the pump head housing.

PERISTALTIC PUMP

Introduction

Stainless steel or high performance plastic rollers available
Transparent PC housing, visible operation



Features

- Stable operation and stackable
- Compact size
- Dismounting the pump head from the drive is needed when loading the tubing
- Standard pump head, fixed occlusion
- Ideal for OEM

Type	Tubing	Max. Flow Rates (mL/min)	Speed (rpm)	Housing Material	Rollers Quantity	Part Number		Weight (kg)
						SS Rollers	PET - TX Rollers	
BZ25	24"	1600	≤ 600	PC	3	0501002	0501001	0.31

Low Pulse Pump Head

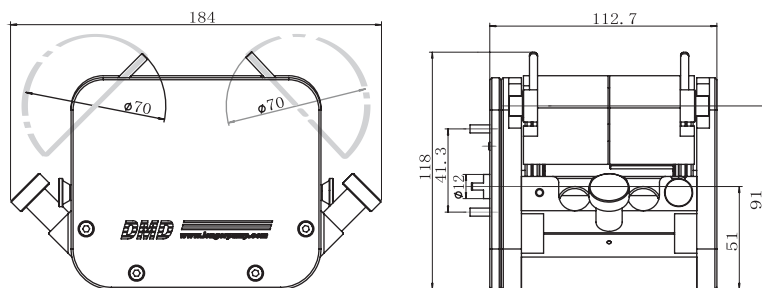
DMD25

PUMP HEADS



Features

- Suitable for accurate liquid dispensing
- Track assembly and base are separated. Easy to load tubing
- Accept many sizes of tubing to realize wide range flow rates transferring
- Twin offset track combining with Double-Y tube elements reduce the pulsation successfully. The accuracy can reach $\pm 0.5\%$
- Hay cutter style fixing prevents the tubing from quick abrasion caused by shock
- Front/rear support plate and the compression block adopt hard anodized aluminum alloy.



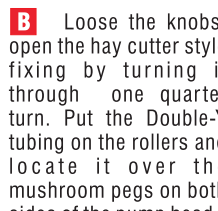
Shaft Type	Part Number
Long Shaft (for single pump head)	0501061
Long Shaft (for stack, connect drive directly)	0501062
Short Shaft (for stack)	0501063

Type	Tubing	Max. Flow Rates (mL/min)	Speed (rpm)	Rollers Quantity	Rollers Material	Track Material	Weight (kg)
DMD25	119"	150	≤ 350	6	SS	POM	2.5
	120"	800					
	15"	1500				Aluminum Alloy	3.0
	24"	2400					
	35"	2950					
	36"	4000					

Tubing Loading Procedure



A Lift the two levers at both sides of the pump head and remove the track.



B Loose the knobs, open the hay cutter style fixing by turning it through one quarter turn. Put the Double-Y tubing on the rollers and locate it over the mushroom pegs on both sides of the pump head.



C Close the hay cutter style fixing. Tighten the knobs on both sides of the pump head.



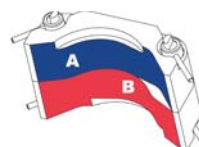
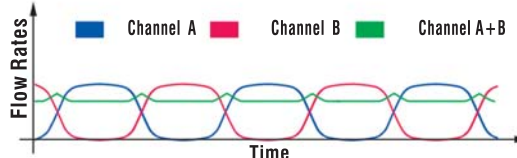
D Replace the track and secure it by closing the two levers.



Introduction

DMD25 pump head is designed for high accuracy dispensing. Twin offset track design and Double-Y tubing ensure the high dispensing accuracy. Hay cutter style retainer prevents the tubing from quick abrasion caused by shock. The pump head adopts stainless steel, aluminum and POM materials. The performance is reliable and stable. It is ideal for industry application.

Pulsation Reducing



Twin offset tracks reduce the pulsation, increase the dispensing accuracy.

Quick-load Pump Head

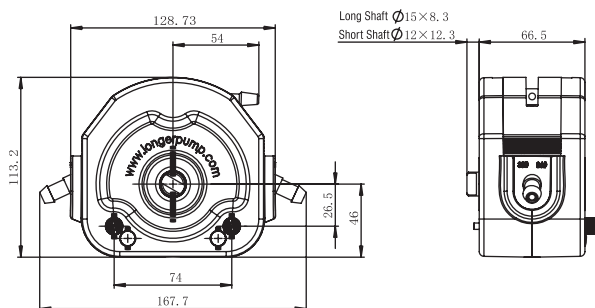
KZ25

Flow Rates : 200 - 6000 mL/min



Introduction

Stainless steel rollers available
 PPS compression block. Self-lubrication to reduce tubing wear.
 Good rigidity for stable size. Good chemical compatibility and high temperature resistance
 High quality materials form a perfect combination. That offers excellent technical and service performance



Tubing Loading Procedure



A Rotate lever to loosen the compression block, and then lift it.



B Load tubing on the rollers and the two V-shaped slots of tubing retainers. Put down the compression block.



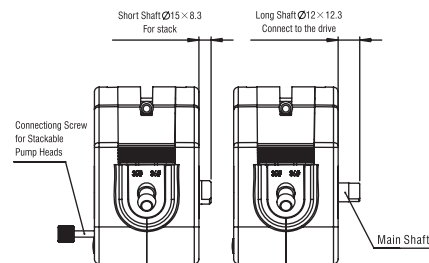
C Press the compression block and rotate lever to lock the compression block. Adjust the screws to fix the tubing.

Upgraded Tubing Fitting Structure



Features

- Cartridges and base can be separated. It's convenient to load the tubing
- Pump heads can be stackable
- Compact size and a wide flow range
- Ideal for OEM



Type	Tubing	Max. Flow Rates (mL/min)	Speed (rpm)	Rollers Material	Housing Material	Compression Block Material	Rollers Quantity	Part Number	Weight (kg)
KZ25	15"	1800	≤ 600	SS	PC	PPS	3	0501251	0.79
	24"	3500						0501252	
	35"	5000							
	36"	6000							

Industrial Easy-load Pump Head

YZ35-13



PUMP HEADS

Tubing Loading Procedure



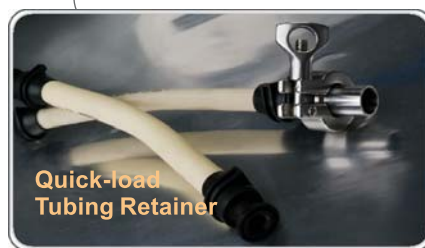
A
Following the indication of arrow, rotate lever to left to open pump head.



B
Load the tubing



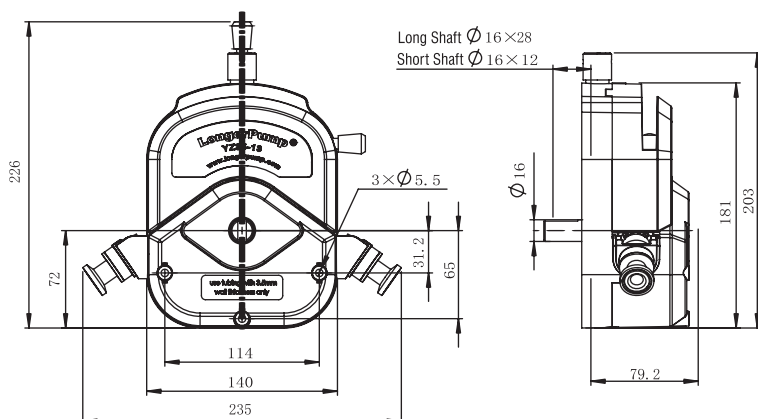
C
Following the indication of arrow, rotate lever to right to close pump head.



Tubing Clamp Mode



Tubing Fitting Mode



Features

- _____ Pump heads can be stackable
- _____ Change tubing easily and rapidly
- _____ Automatic tubing retention
- _____ Suitable for several tubing sizes
- _____ The rollers adopt high quality materials and has good wearing property
- _____ The housing of the pump head has perfect rigidity and structure property
- _____ Its material is PSU which has stable performance and high temperature resistance (150 °C)

Type	Tubing	Max. Flow Rates (mL/min)	Speed (rpm)	Rollers Material	Rollers Quantity	Housing Material	Part Number	Weight (kg)
YZ35 - 13	73" 82"	11000	≤ 600	SS	3	PSU	0501591 0501592	1.65

Industrial Quick-load Pump Head

KZ35



Tubing Fittings/Clamps Installation Procedure



A
Turn the left and right lever and take out the compression block.

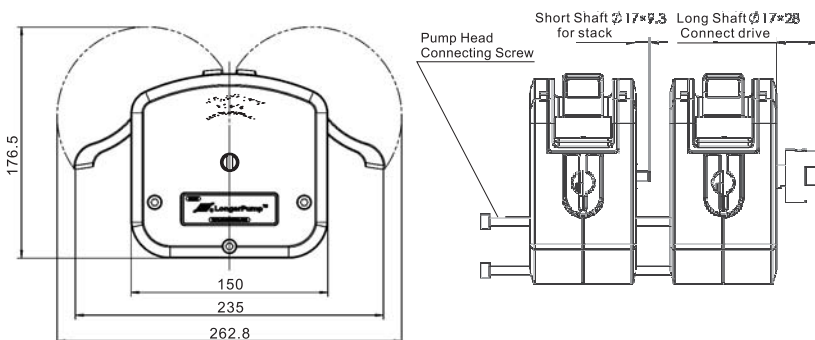


B
Insert the tubing fittings/clamps with tubing into the slots on both sides.



C
Put the compression block on the tubing and turn the left and right levers to lock the compression block.

PUMP HEADS



Features

Key parts adopt 304 stainless steel. Suitable for pharmaceutical and food industry.

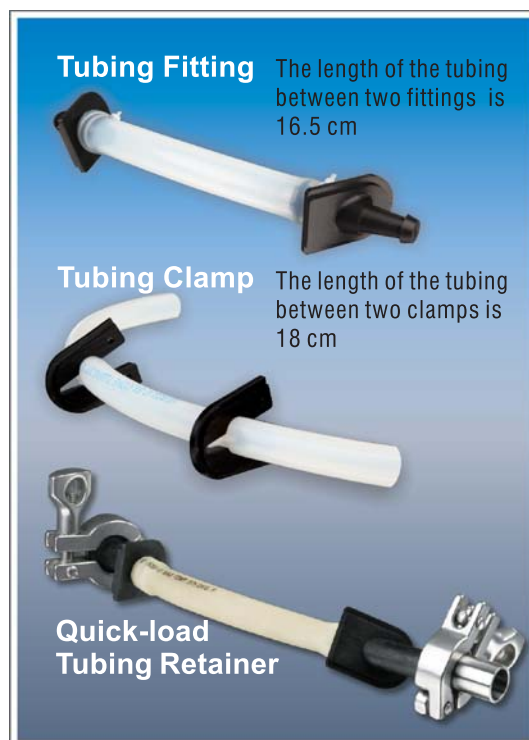
Compression block and base are separate. Easy to load the tubing.

Accept 73" and 82" tubing. The flow rate range is wide.

Two pump heads can be stacked.

The advantage of selecting tubing clamps: No residue fluids in the tubing

The advantage of selecting tubing fitting: Save tubing cost. The low cost tubing can be connected outside of the pump head.



Tubing Fitting The length of the tubing between two fittings is 16.5 cm

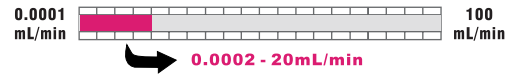
Tubing Clamp The length of the tubing between two clamps is 18 cm

Quick-load Tubing Retainer

Pump Head	Tubing	Max. Flow Rates (mL/min)	Speed (rpm)	Tubing Clamp/Fitting Material	Pump Head Material	Roller Quantity	Part Number	Weight (kg)
KZ35	73" 82"	11000	<600	PVDF	304 Stainless Steel	3	0501261 0501262	3.7

Basic (Micro) Peristaltic Pump

Flow Rates

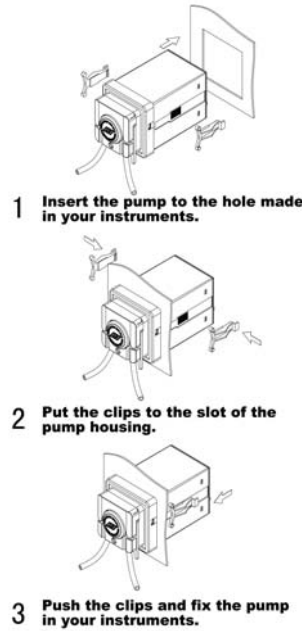


BQ50-1J



BQ50-1J peristaltic pump combines low flow and compact size into a single pump that mounts in the equipment rack or panel. The pump provides flow rates from 0.0002 to 20.0 mL/min. And it can be operated through hand-held remote controller, analog interface or RS485. White and black colors are available.

Features



- Prime Function
 - Fast Filling
 - Fast Emptying
- Memory function
- Ideal for OEM
 - Compact size
 - Light weight
- Installation Modes
 - Inlaid
 - Rack
- Control Modes
 - Hand-held remote controller
 - Analog external control
 - Communication external control
- Tubing Loading
 - Flexible
 - Reliable

OEM Installation Sketch



Specifications

Speed: 1 to 50 rpm, reversible
Speed resolution: 1 rpm (External control 0.1 rpm)
Speed control: Hand-held remote controller
Display: Hand-held remote controller displays speed range and running status
External control: Start/stop and cw/ccw control, 0 to 5 V, 0 to 10 V, 4 to 20 mA and 0 to 10 kHz speed control
Communication interface: RS485
Power supply: DC 12 V/1A adapter
Power consumption: < 10 W
Operating condition: Temperature 0 - 40 °C Relative humidity < 80%
Drive dimensions (L×W×H) : 135×72×72 (mm)
Controller dimensions (L×W×H) : 105×50×16 (mm)
Drive weight: 0.5 kg
IP rating: IP 31

Standard Configuration	Optional Accessories
1. Pump Head	1. Small V-base
2. Drive	2. Polished Stainless Steel Frame Tube
3. Hand-held Remote Controller	3. Fixed Plate
4. Adapter	
5. Data Wire	

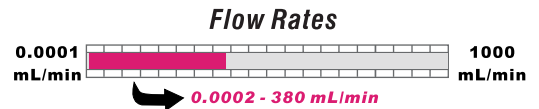


Drive	Part Number	Pump Head	Flow Rates (mL/min)	Tubing (mm)	Weight (kg)
BQ50 - 1J	0502021	WX10 - 14	0.0002 - 20	Wall Thickness: 0.8 - 1.0 Inner Diameter: ≤ 3.17 ex. 0.5×0.8 1×1 2×1 2.4×0.8 3×1 etc.	0.5
	0502022				

Basic Peristaltic Pump

BT100-2J

Acceptable pump heads for BT100-2J are YZ1515x, YZ2515x, YZII15, YZII25, DG-1 and DG-2. The pump provides flow rates from 0.0002 to 380 mL/min. The speed can be adjusted manually or automatically through external control. Store the running parameters automatically. Easy to operate.



Applicable pump heads



YZ1515x
YZ2515x



YZII15
YZII25



DG-1



DG-2



Functions and Features

Applicable pump heads: YZ1515x, YZ2515x, YZII15, YZII25, DG - 1, DG - 2

Prime key: For fast filling and emptying

Communication function: RS485

External control: Start/stop and cw/ccw control, 0 - 5 V, 0 - 10 V, 4 - 20 mA, 0 - 10 kHz speed control

Adjust speed manually or automatically through external control interface

Memory function: Storing the running parameter automatically

Membrane keypad, easy to operate

Good performance and economical price

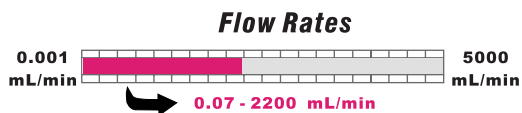
Indoor use only

Specifications

- Speed: 0.1 to 100 rpm, reversible
- Speed resolution: 0.1 rpm
- Speed control: Membrane keypad
- Display: 3-digit LED displays current rpm
- External control: Start/stop, cw/ccw control, and 0 - 5 V, 0 - 10 V, 4 - 20 mA and 0 - 10kHz speed control
- Power supply: AC 90 V - 260 V 50/60 Hz
- Power consumption: ≤30 W
- Operating condition: Temperature 0 to 40 °C
Relative humidity < 80%
- Dimensions (L×W×H) : 232×142×149 (mm)
- Drive weight: 2.3 kg
- IP rating: IP 31

Drive	Part Number	Pump Head	Tubing	Flow Rates (mL/min)	Weight (kg)
BT100 - 2J	0502111	YZ1515x, YZ II15	13# 14# 19# 16# 25# 17#18#	0.007 - 380	3.0
		YZ 2515x	15# 24#	0.17 - 270	3.0
		YZ II25	15# 24#	0.17 - 270	3.0
		DG - 1 (6 Rollers)	Wall Thickness: 0.8 - 1.0 (mm) Inner Diameter: ≤ 3.17 mm	0.00025 - 48	2.5
		DG - 1 (10 Rollers)		0.0002 - 32	2.5
		DG - 2 (6 Rollers)		0.00025 - 48 (Single channel)	2.6
DG - 2 (10 Rollers)	0.0002 - 32 (Single channel I)	2.6			

Basic Peristaltic Pump



BT300-2J/BT600-2J

Acceptable pump head of YZ1515x, YZ2515x, YZ II 15, YZ II 25. The pump delivers flow rates from 0.07 to 2200 ml/min. The speed can be adjusted manually or automatically through external control interface. Dispensing function can be realized by connecting Longer dispensing controller FK-1C.

Applicable Pump Heads



YZ1515x
YZ2515x



YZII15
YZII25



Specifications

Specifications	BT300-2J	BT600-2J
Speed	1 to 300 rpm, reversible	1 to 600 rpm reversible
Speed resolution	1 rpm	
Speed control	Rotary encoded switch	
Display	3-digit LED displays current speed	
External control	Start/stop and cw/ccw control, 0 to 5V, 0 to 10V, 4-20 mA and 0 to 10Hz speed control	
Power supply	AC 90 V - 260 V 50/60 Hz	
Operating condition	Temperature 0 to 40 °C Relative humidity < 80%	
Dimensions	(L×W×H)285×207×180 (mm)	
IP rating	IP 31	
Power consumption	< 48 W	< 100 W
Drive weight	3.6 kg	3.8 kg

Functions and Features

- Applicable pump heads: YZ1515x, YZ2515x, YZII15, YZII25
- Prime button for fast filling and emptying
- Adjust speed manually or automatically through external control
- Memory function, storing the running parameters automatically
- Realize computer control through RS-485 communication interface
- Indoor use only

Drive	Part Number	Pump Head	Tubing	Flow Rates (mL/min)	Weight (kg)
BT300 - 2J	0502311	YZ1515x、YZ II 15	13# 14# 19# 16# 25# 17# 18#	0.07 - 1140	4.0
		YZ2515x、YZ II 25	15# 24#	1.7 - 870	
BT600 - 2J	0502621	YZ1515x、YZ II 15	13# 14# 19# 16# 25# 17# 18#	0.07 - 2200	4.2
		YZ2515x	15# 24#	1.7 - 1600	
		YZ II 25	15# 24#	1.7 - 1600	

Basic Peristaltic Pump

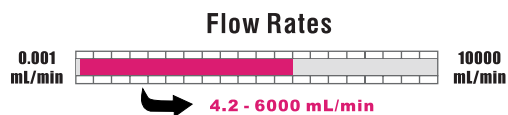
WT600 - 2J

WT600-2J peristaltic pump adopts brushless DC motor. It has features of high output torque, low vibration, high efficiency and free maintenance. It can drive double pump heads. It accepts many pump heads and delivers flow rates from 4.2 to 6000 mL/min. The speed can be adjusted manually or automatically through external control.



Functions and Features

- Prime button: For fast filling and emptying
- Memory function: Store the speed and the address of the pump
- Communication function: Realize the computer control through RS485 interface
- Display: 3 digits LED displays the speed of the pump
- External control input: Control the speed, start/stop and direction of the pump
- Suitable for different pump heads and tubing for multiple application
- High output torque which can drive double pump heads
- Brushless DC motor, high output torque and free maintenance
- Operation mode: Switch, button and knob. Easy to operate



Applicable Pump Heads



YZ1515x
YZ2515x



DMD25



YZII15
YZII25



KZ25



DG15-24

Specifications

Speed: 60 to 600 rpm
Speed accuracy: $\pm 1.0\%$
Speed resolution: 1.0 rpm
Output torque: $\geq 1.50 \text{ N} \cdot \text{M}$
External control: Start/stop and cw/ccw control, 0.5 to 5 V, 1 to 10 V, 4 to 20 mA and 1-10 kHz speed control
Communication interface: RS485
Power supply: AC 176 - 264V 50Hz/60Hz
Power consumption: $\leq 200 \text{ W}$
Operating condition: Temperature 0 to 40 °C
Relative humidity < 80%
Dimensions (L×W×H) : 285×207×180 (mm)
Drive weight: 5.2 kg
IP rating: IP 31

Drive	Part Number	Pump Head	Tubing	Flow Rates (mL/min)	Weight (kg)	
WT600 - 2J	0502631	(1, 2) × YZ1515x	13# 14# 19# 16# 25# 17# 18#	Single channel 4.2 - 2200	5.6 - 6.0	
		(1, 2) × YZII 15				
		(1, 2) × YZ2515x	15# 24#	Single channel 100 - 1600		
		(1, 2) × YZII 25	15# 24# 35# 36#	Single channel 100 - 3000		
		KZ25		200 - 6000		6.0
		DG15 - 24	16# 25# 17#	50 - 1800		6.0
		DMD25 ($\leq 350 \text{ rpm}$)	119# 120# 15# 24# 35# 36#	30 - 4000		7.7

* Max. speed for DMD25 is 350 rpm

Basic Peristaltic Pump

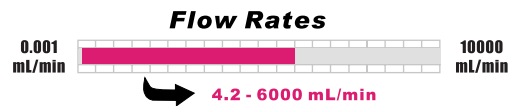
WT600 - 3J

WT600-3J peristaltic pump is high IP rating and high efficiency. It adopts brushless DC motor and speed closed loop control. It has features of high output torque, low vibration and free maintenance. It accepts multiple pump heads and delivers flow rates from 4.2 to 6000 mL/min (single channel) .



Functions and Features

- High IP rating: Suitable for moist and dust working condition
- Prime key: For fast filling and emptying
- Memory function: Storing the running parameters automatically
- Communication function: Realize the computer control through RS485 interface
- Display: 3 digits LED displays the speed of the pump
- External control input: Control the speed, start/stop and direction of the pump
- Suitable for different pump heads and tubing
- High output torque which can drive double pump heads
- Brushless DC motor, high output torque, free maintenance
- Operation mode: Switch and membrane keypad. Easy to operate



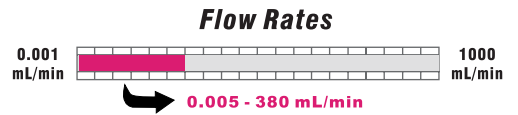
Specification

Speed: 60 - 600 (rpm)
Speed accuracy: $\pm 1.0\%$
Speed resolution: 1.0 rpm
Output torque: $\geq 1.50 \text{ N}\cdot\text{M}$
Display: 3 digits LED displays current speed; 4 digits LED display the working state
Memory function: Storing the running parameters automatically
External control: 0.5 - 5 V, 1 - 10 V, 4 - 20 mA or 1 - 10 kHz are corresponding to 60 - 600 rpm
Communication interface: RS485
Power supply: AC 176 - 264V 50Hz/60Hz
Power consumption: $\leq 200 \text{ W}$
Operating condition: Temperature 0 to 40°C Relative humidity < 80%
Drive dimensions (L×W×H) : 273×190×272 (mm)
Drive weights: 7.3 kg
IP rating: IP55

Drive	Part Number	Pump Head	Tubing	Flow Rates (mL/min)	Weight (kg)	
WT600 - 3J	0502641	(1,2) ×YZ1515x	13# 14# 19# 16# 25# 17# 18#	Single channel 4.2 - 2200	7.7 - 8.1	
		(1,2) ×YZII 15				
	0502642	(1,2) ×YZ2515x	15# 24#	Single channel 100 - 1600		
		(1,2) ×YZII 25	15# 24# 35# 36#			
	0502643	KZ25		200 - 6000		8.1
	0502644	DG15 - 24	16# 25# 17#	50 - 1800		8.1
	DMD25 ($\leq 350\text{rpm}$)	119# 120# 15# 24# 35# 36#	30 - 4000	9.8		

* Max. speed for DMD25 is 350 rpm

Flow Rates Peristaltic Pump

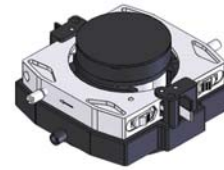


LEAD-2

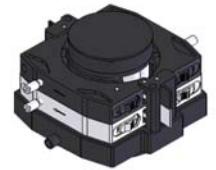
The acceptable pump heads for Lead-2 are Lead15-48, Lead15-88, Lead15-24, Lead15-44 and max. 8 channels are available. The pump delivers flow rates from 0.005 to 380 mL/min. It has flow rates display and flow rates calibration functions. It also has functions of speed adjustment, start/stop, cw/ccw, prime (rinsing), tubing selection, RS485 communication, analog control, etc.



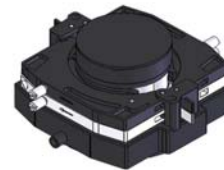
Applicable Pump Heads



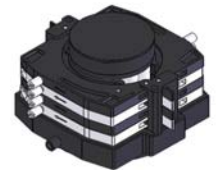
LEAD15-24
(2 channels, 4 rollers)



LEAD15-44
(4 channels, 4 rollers)



LEAD15-48
(4 channels, 8 rollers)



LEAD15-88
(8 channels, 8 rollers)

Specifications

Speed: 1.0 to 100.0 rpm, reversible

Speed resolution: 0.1 rpm

Speed control: Rotary encoded switch coupled with membrane keypad

Display: 128×32 graphic LCD displays current running status

External control: Start/stop and cw/ccw control, 0 to 5 V, 0 to 10 V, 4 to 20 mA and 0-10 kHz speed control

Communication interface: RS485

Power supply: AC 90 - 260V 50/60 Hz

Power consumption: < 50W

Operating condition: Temperature 0 to 40 °C
Relative humidity < 80%

Dimensions (L × W × H): 190×162×275 (mm)

Drive weight: 3.5 kg

IP rating: IP 31

Functions and Features

Vertical structure

Accept 4 special pump heads

Display can switch between flow rates and speed

Calibration function for more accurate flow rates

Computer control available through RS485 communication

Prime key for fast filling and emptying



Drive	Part Number	Pump Head	Tubing	Flow Rates (Single channel:mL/min)	Weight (kg)
LEAD - 2	0502197	LEAD15 - 24	16# 25# 17#	1 - 380	4.36
		LEAD15 - 44		1 - 380	4.42
		LEAD15 - 48	Inner Diameter ≤ 3.17 mm Wall Thickness 0.8 - 1.0 mm 13# 14#	0.005 - 75 0.07 - 20	4.48
		LEAD15 - 88	Inner Diameter ≤ 3.17 mm Wall Thickness 0.8 - 1.0 mm 13# 14#	0.005 - 75 0.07 - 20	4.48

Flow Rates Peristaltic Pump

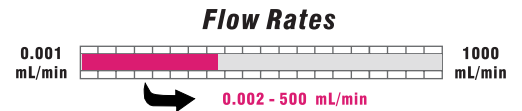
BT100-1L

The max. output torque of BT100-1L drive is 1.65 N·M. Multiple pump heads are available. The pump delivers flow rates from 0.002 to 500 mL/min. 128×64 graphic LCD displays running menus and parameter setting menus. The flow rates and the speed (rpm) can be displayed in the same screen. The display interfaces are friendly. It has flow rates calibration function to make the flow rates more accurate. It has many control modes. The external control can be realized through standard external interface or RS485 communication interface.



Functions and Features

- Display can switch between flow rates and rpm
- Calibration capability for more accurate flow rates
- Graphic LCD together with rotary encoded switch make the pump easy to use
- Higher torque to accept more pump heads and more channels
- RS485 communication interface available. Offering communication protocol to customer and customizing software according to customer's requirements



Flow Rates Display High Torque

Applicable Pump Heads



DG-2
I
DG-24



DG15-24
DG15-28
DG15-48



YZ1515x
YZ2515x



YZII15
YZII25

Specifications

- Speed:** 1.0 to 100.0 rpm, reversible
- Speed resolution:** 0.1 rpm
- Speed control:** Rotary encoded switch coupled with membrane keypad
- Display:** 128×64 graphic LCD displays current running status
- External control:** Start/stop and cw/ccw control, 0 to 5 V, 0 to 10 V, and 4 to 20 mA speed control
- Communication interface:** RS485
- Power supply:**
AC 220 V ± 10% 50Hz/60 Hz (standard)
AC 110 V ± 10% 50Hz/60 Hz (optional)
- Power consumption:** < 50 W
- Operating condition:** Temperature 0 to 40 °C
Relative humidity < 80%
- Dimensions (L × W × H):** 202×160×239 (mm)
- Drive weight:** 5.34 kg
- IP rating:** IP 31

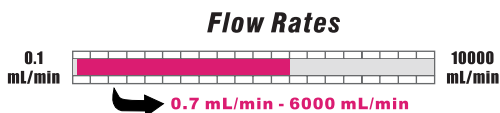


Drive	Part Number	Pump Head	Tubing	Flow Rates (Single channel: mL/min)	Weight (kg)
BT100 - 1L	0502122	DG15 - 24	16# 25# 17#	1 - 380	6.16
		DG15 - 28, DG15 - 48	Wall Thickness: 0.8 - 1.0 (mm) Inner Diameter: ≤ 3.17 mm 13# 14#	0.005 - 75	6.01
	0502125	DG - (2,4,6,8,12,16,24) (6,10 rollers)	Wall Thickness: 0.8 - 1.0 (mm) Inner Diameter: ≤ 3.17 mm	0.0025 - 48 (6 rollers) 0.002 - 32 (10 rollers)	5.82 - 8.70
		(1,2,3,4) × YZ1515x (1,2,3,4) × YZII 15	13# 14# 19# 16# 25# 17# 18#	0.07 - 380	5.76 - 7.02
		(1,2,3,4) × YZ2515x (1,2) × YZII 25	15# 24# 15# 24# 35# 36#	1.7 - 270 1.7 - 500	5.76 - 7.02 5.70 - 6.04

Dispensing Peristaltic Pump

BT100-1F/WT600-1F

These two kinds of Dispensing Peristaltic Pump can dispense liquid precisely and have calibration function. They can be controlled through standard external interface or RS485 communication interface.



Applicable Pump Heads



PERISTALTIC PUMP

Specifications	BT100-1F	WT600-1F
Speed	0.1-100 rpm, reversible	10-600 rpm, reversible
Dispensing volume	0.01mL to 9.99L	0.1mL to 99.9
Speed resolution	0.1 rpm	1 rpm
Copy number	0 to 9999, 0 means unlimited cycle.	
Pause time	0.1 sec to 99.9 min	
Flow rates calibrating time	0.5-30 min	
External control	Start/stop and cw/ccw control, 0 to 5V, 0 to 10V, 4-20 mA and 0 to 10Hz speed control.	
Output interface	Start/Stop, direction output and 0-10 kHz frequency output, OC gate output.	
Operating condition	Temperature 0-40 °C, relative humidity <80%	
Drive Dimensions	285×207×180 mm	
IP rating	IP31	
Power Supply	AC100-240V, 50/60Hz	AC176-264V±10%, 50/60Hz
Power consumption	<40W	<140W
Drive weight	3.8kg	5.2kg



Functions and Features

- Small liquid volume dispensing: WT600-1F can dispense liquid volume in mL unit, and BT100-1F can dispense liquid volume in μ L and mL unit
- Back suction function: In dispensing mode, the pump runs reversely after finishing on filling operation to prevent the liquid from dripping
- Operating mode: Membrane keypad and rotary encoded switch
- Control mode: Pumps can be controlled by membrane on it or through external control
- Display: LCD displays current running status and parameters
- Prime Key: For fast filling and emptying
- Memory function: Storing the running parameters automatically
- Calibration function: The flow rates and dispensing volume can be calibrated to increase the accuracy
- Communication interface: RS485, Longer company can provide relative protocol

Drive	Part Number	Pump Head	Tubing	Flow Rates (* /min)	Weight (kg)
BT100 - 1F	0502132	YZ1515x, YZ1115	13# 14# 19# 16# 25# 17# 18#	7 μ L - 380 mL	4.2
		YZ2515x	15# 24#	0.17mL - 270mL	
		YZ1125	15# 24# 35# 36#	0.17 mL - 500 mL	
		DG - 1, DG - 2, DG - 4 (6 rollers)	Wall Thickness: 0.8 - 1.0 (mm)	0.25 μ L - 48 mL (single channel)	4.0 - 4.2
DG - 1, DG - 2, DG - 4 (10 rollers)	Inner Diameter: \leq 3.17 mm	0.2 μ L - 32 mL (single channel)			
WT600 - 1F	0502661	(1,2) × YZ1515x	13# 14# 19# 16# 25# 17# 18#	Single channel 0.7 - 2200	5.6 - 6.0
		(1,2) × YZ1115		Single channel 17 - 1600	
		(1,2) × YZ2515x	15# 24#	Single channel 17 - 3000	
		(1,2) × YZ1125	15# 24# 35# 36#	34 - 6000	6.0
		KZ25	16# 25# 17#	8.2 - 1800	6.0
		DG15 - 24	119# 120# 15# 24# 35# 36#	5 - 4000	7.7

* Max. speed for DMD25 is 350 rpm

Tel: 86 - 312 - 3110087

Fax: 86 - 312 - 3168553

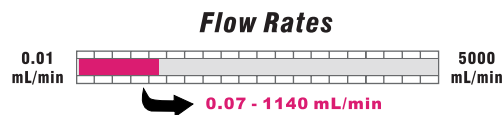
Internet www.longerpump.com

E - mail: longer@longerpump.com

Dispensing Peristaltic Pump

BT300-1F

Applicable pump heads for BT300-1F are Yz1515x, YZ2515x, YZII15, YZII25. The pump delivers flow rates from 0.07 to 1140 mL/min. 128 x 64 graphic LCD displays running menus and parameters setting menus. The display interfaces are friendly. It has many control modes. The external control can be realized through standard external control interface or RS485 communication interface.



Applicable Pump Heads



YZ1515x
YZ2515x



YZII15
YZII25

Specifications

- Speed:** 1 to 300 rpm, reversible
- Speed resolution:** 1 rpm
- Speed control:** Rotary encoded switch coupled with membrane keypad
- Display:** 128×64 graphic LCD displays flow rates, speed or dispensing mode
- Copy number:** 1 to 999
- Dispense volume:** 0.1 mL to 99.9 L
- Pause time:** 1 to 999 s
- Back suction angle:** 0 to 360° 18° increments
- External control:** Start/stop and cw/ccw control, 0 to 5 V, 0 to 10 V, and 4 to 20 mA speed control
- Output interface:** Start/Stop, direction output and 0-10 kHz frequency output, OC gate output.
- Communication interface:** RS485
- Power supply:**
AC 220 V ± 10% 50/60 Hz (standard)
AC 110 V ± 10% 50/60 Hz (optional)
- Power consumption:** < 50 W
- Operating condition:** Temperature 0 to 40 °C
Relative humidity < 80%
- Dimensions (L × W × H):** 202×160×239 (mm)
- Drive weight:** 4.3 kg
- IP rating:** IP 31

Functions and Features

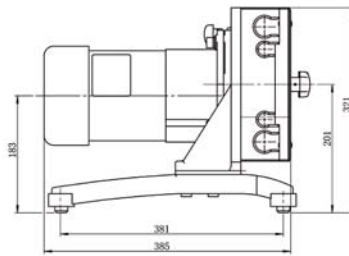
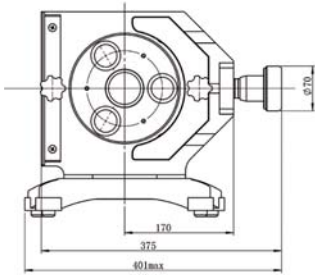
- Acceptable pump heads: YZ1515x, YZ2515x, YZII15, YZII25
- Set pause time to realize dispensing and filling automatically
- Display can switch between flow rates and rpm
- Calibration function to acquire more accurate flow rates
- RS485 communication interface available. Offering communication protocol to customer and customizing software according to customer's requirements



Drive	Part Number	Pump Head	Tubing	Flow Rates (mL/min)	Weight (kg)
BT300 - 1F	0502322	YZ1515x YZ II15	13# 14# 19# 16# 25# 17# 18#	0.07 - 1140	4.7
	0502325	YZ2515x YZ II25	15# 24#	1.7 - 870	4.7

Batch Transferring Pump

JL350-2J



INDUSTRIAL

IP55

Specifications

Speed:

30 to 350 rpm, reversible

Speed resolution: 0.6 rpm

Power supply:

AC 220 V \pm 10% 50/60 Hz

Power consumption: < 400 W

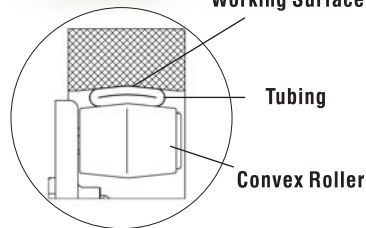
Operating condition: Temperature 0 to 40 °C

Relative humidity < 80%

Dimensions (L×W×H): 417×401×321 (mm)

Pump weight: 32 kg

IP rating: IP 55



Concave Working Surface

Tubing

Convex Roller

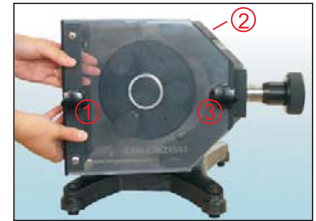
CE

Flow Rates

0.001 mL/min 35 L/min

➔ ≤ 35 L/min

Tubing Loading



- A**
1. Turn the knob ① ② counter clockwise.
 2. Turn the hand wheel to loose the compression block
 3. Pull the knob ③ and take out the front cover



- B**
4. Select suitable tubing slots. Place the tubing between the roller and the compression block, then put the tubing in the corresponding tubing slots



- C**
5. Pull the knob ③, insert the front cover, tighten the knob ①
 6. Turn the hand wheel and adjust the occlusion between the roller and the compression block
 7. Tighten the knob ② and fix the compression block

Functions and Features

- High-power pumps, and the maximum flow rates can reach 35L/min
- The structure of concave working surface and convex roller realizes the tubing self-position function. It reduces abrasion and prolongs tubing life.
- Variable frequency speed control to AC motor with creeper gear
- Adjustable occlusion
- Strong drive
- Pump head operation is visible through transparent front cover

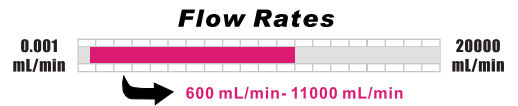
Tubing Fitting Structure

The length of the tubing between two fittings is 45.5 cm

Special tubing fitting can be selected. Low cost tubing can be used outside of the pump head if using tubing fitting. Suitable for industrial application

Drive	Part Number	Pump Head	Tubing	Flow Rates (L/min)	Weight (kg)
JL350 - 2J	0502352	KZ48/63	88 [#]	1.3 - 15	32
			92 [#]	3 - 35	

Industrial Peristaltic Pump



YT600-1J

IP54

Part Number
 0502521 (4-20mA)
 0502522 (0-10kHz)
 0502523 (0-10V)



Applicable pump heads



YZ35-13



KZ35



The pump delivers flow rates from 600 to 11000 mL/min. The speed can be adjusted manually or automatically through external control interface. Driven by DC motor YT600-1J has higher torque and can drive double pump heads. Suitable for industrial applications which need high pressure and flow rates.

Specifications

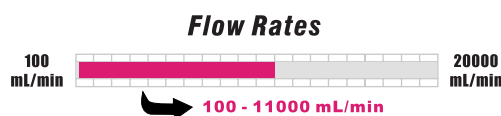
Speed	60–600 (rpm) , reversible
Speed control	10 turn potentiometer
Power supply	AC 220 V±10% 50/60 Hz
Power consumption	<400 W
Operating condition	Temperature 0 to 40°C Relative humidity <80%
External control	Start/stop control, speed control (0 - 10 kHz, 0 - 10 V, 4 - 20 mA optional, 4 - 20 mA is standard configuration)
Dimensions (L×W×H)	325×236×193 (mm)
Drive weight	20kg
IP rating	IP 54

Functions and Features

- Acceptable pump heads: YZ35-13, KZ35
- Suitable for industrial applications
- Can be equipped with Longer Dispensing Controller for filling function when connecting single channel pump head

Drive	Part Number	Pump Head	Tubing	Flow Rates (mL/min)	Weight (kg)
YT600 - 1J	0502521	YZ35 - 13	73" 82"	600 - 11000	21.65
	0502522	KZ35		600 - 11000	23.7
	0502523	2×YZ35 - 13		(Single Channel) 600 - 11000	23.3
		2×KZ35		(Single Channel) 600 - 11000	27.4

Industrial Peristaltic Pump



WT600-4F



WT600-4F is a high IP rating and high efficient pump with high-power DC brushless motor, it is suitable for working in dust and damp industrial environment. It delivers flow rates from 100 to 11000 ml/min and dispensing volume from 100ml to 999 liters when loading YZ35 or KZ35 pump head. WT600-4F adopts 128×32 LCD to display all the running information and parameters and membrane keypad to set parameters. It is easy to operate. This pump can be controlled manually or externally through standard external control module and RS485.

Part Number
 0502662 (4-20mA)
 0502664 (0-10kHz)
 0502663 (0-10V)
 0502661 (0-5V)

Adopting water-proof aviation plug as external control interface to transmit external control signal.



Specifications

- Flow rates:** 100 to 11000 ml/min
- Dispensing volume:** 100 ml to 999 liters
- Speed:** 10 to 600 rpm
- Copy Number:** 0 to 9999, "0" means running continuously
- Pause time:** 1s to 99.9 min
- Back suction:** 0 to 9.9 revolutions, (precision is 0.1 revolution)
- Calibration time:** 30 to 1800 seconds
- External control input:** Start/stop control, direction control, flow rates control (0 - 5V, 0 - 10V, 4 - 20 mA , 0 - 10kHz optional)
- External control output:** Start/stop output, direction output, 0 - 7.5 kHz frequency output corresponding to 0 to 600 rpm.
- Communication interface:** RS485
- Power:** AC 176 - 264 V, 50/60 Hz
- Power consumption:** < 300 W
- Operating condition:** Temperature 0 to 40°C, Relative humidity < 100%
- Dimensions (L × W × H):** 360×215×243 (mm)
- Drive weight:** 12 kg
- IP Rating:** IP65



Functions and Features

- Acceptable pump head: YZ35-13, KZ35.
- Back suction: Prevent dripping of liquid when dispensing a certain liquid volume.
- Operating mode: Membrane keypad to set parameters and operation.
- Control mode: Pump can be controlled internally through membrane keypad or externally through external control modules.
- Display: LCD displays all the running information and parameters.
- Prime function: Fast filling or emptying the tubing.
- Memory function: Save the parameters and working status automatically.
- Calibration: The flow rates and dispensing volume can be calibrated to improve the accuracy.

Drive	Part Number	Pump Head	Housing Material	Tubing	Flow Rates (mL/min)	Weight (kg)
WT600-4F	0502662	YZ35 - 13 (1,2)	PSU	73# 82#	100 - 11000 (Single Channel)	13.65 - 15.3 15.7 - 19.4
	0502664 0502663 0502661	KZ35 (1,2)	304 Stainless Steel			

Dispensing & Filling System

FK1-100Z

Dispensing and Filling System is the peristaltic pump system with autocontrol function. It consists of 3, 4 or 5 units peristaltic pumps of autonomous working and a dispensing and filling controller. It can be mounted on the dispensing and filling equipments to realize non-contaminated and accurate dispensing and filling for medicine or fluids. It adopts stacking structure. Different combinations are available to meet the requirements of the customers.



Part Number
051100A (3 channels)
051100B (4 channels)
051100C (5 channels)

Functions and Features

- One unit has 3, 4 or 5 channels. Max. 12, 16 or 20 channels (4 units) are available
- Each channel is controlled separately. Easy to use
- Back suction function is available. Avoid liquid drippage
- Control parts adopt plug in structure. Easy to maintain
- Flow rates calibration function for more accurate volume
- Realize the function of filling stop without bottles
- 128×64 graphic LCD display and friendly user interface
- Computer control is available through RS485 communication

Specification

- Dispensing volume: 0.5 - 100 mL
- Dispensing time: 0.5 - 30 s
- Time precision: 0.01 s
- Max. speed: 600 rpm
- Back suction time: 0.00 - 1.00 s
- External control: Filling-start, filling-stop without bottles (Contact closure)
- Filling unit dimensions (L × W × H) for 4 channels: 800 × 200 × 174 (mm)
- Filling unit weight for 4 channels: 18.7 kg
- IP Rating: IP 31

Drive	Part Number	Pump Head	Dispensing (mL)	Tubing	Dispensing Time (s)	Speed (rpm)	Accuracy ±%	Productivity (pcs/min)	
FK1-100Z	051100A	YZ1515x	0.5	13"	1.2	350	2	25	
			1	13"	2	425	1	15	
			2	14"	1	450	2	30	
			3	14"	1	450	2	20	
			5	19"	1.2	500	2	25	
	051100B		YZ2515x	7	16"	1.2	428	2	25
				10	25"/15"	1	360	2	30
				20	17"/24"	1.2	375	2	30
				50	17"/24"	2	550	1	15
				100	17"/24"	4	550	0.5	15

OEM Products

OEM Applications

- Fluids sampling of inspection or testing instruments
- Feeding of fluids equipments
- Dispensing and filling fluids equipments
- Other fluids transfer

Type	Introduction	Functions and Features	Specifications
 OEM10/TH15	OEM10 has eleven kinds of optional fixed speed which can deliver max. flow rates of 167 ml/min, it is one of ideal OEM product and has been widely used in environment monitoring, ferment, and filling industry, etc.	OEM10 adopts AC synchronous motor which has stable speed and high repeatability. Pump head with two spring rollers can reduce the abrasion of tubing and prolong the tubing life.	Speed: Eleven kinds of fixed speed Power supply: AC220V 50-60Hz Power consumption: 15W Dimension: 105.5×110×80 (mm) Weight: 0.7kg
 OEMBJ60-01/WX10	The pump delivers flow rates from 0.001 to 24 mL/min. The speed can be adjusted by BCD dial switch which is divided into 15 levels, or controlled by external pulse.	Suitable for tubing which the inner diameter is less than 3.17 mm and wall thickness is from 0.8 to 1.0 mm. Reasonable and fine shape, compact size, DC power supply, ideal for OEM.	Speed: 0 - 60 rpm, reversible Speed precision: 1 rpm Speed control: BCD dial switch Power supply: DC12V/1A Power consumption: ≤10 W Dimension: 116×60×73 (mm) Weight: 0.55 kg
 OEMBJ100-01/JY15-12	The pump delivers flow rates from 0.7 to 170 mL/min. The speed can be adjusted by BCD dial switch which is divided into 15 levels, or controlled by external pulse.	Suitable for tubing with wall thickness of 1.6 mm. Low speed, high flow rates, long life. Reasonable and fine shape, compact size, DC power supply, ideal for OEM.	Speed: 0 - 100 rpm, reversible Speed precision: 1 rpm Speed control: BCD switch, the increment is 5 rpm when the speed is less than 50 rpm and the increment is 10 rpm when the speed is more than 50 rpm Power supply: DC12V/2A Power consumption: Less than 25 W Dimension: 118×60×86 (mm) Weight: 0.58 kg
 OEM103/DG-2	OEM103 adopts step motor with bracket and shock absorption parts which reduce the vibration and make it easy to load pump head. It has been widely used in flow injection analysis instrument and ultraviolet radiation analysis instrument.	Driver need to be designed or selected to drive the step motor. Acceptable pump heads are YZ and DG series pump heads.	Max. Speed: 100 rpm (DG pump heads) 300 rpm (YZ pump heads) Dimension: 130×120×115 (mm) Weight: 1.2 kg
 OEMDC12-02/WX15-12	OEMDC12-02/WX15-12 delivers the maximum flow rates of 22 ml/min, small size; it is suitable to be built in customers equipment.	OEMWX15-12 adopts DC gear motor and 16" silicon tubing, user can control flow rates by adjusting voltage of motor.	Speed: 0-100 rpm, reversible Power supply: DC12V Dimension: 70×60×50 (mm) Weight: 0.2kg
 NEW OEMT100-S1/JY15-24	OEMT100-S1 is one kind of small & medium flow rates, dual-channel OEM peristaltic pump; it has compact structure and provides flow rates from 0.1 to 43ml/min with various tubing. Easy to operate, user can use BCD dial switch to adjust speed manually or use 4-20mA external control module to adjust speed.	Acceptable pump head: JY15-24 Suitable tubing: 13#, 14#, 19#, 16# External control: Start/stop, direction control, speed control (4-20mA corresponding to 0.1-100rpm) Manual control: BCD dial switch to adjust speed 5 to 100 rpm.	Manual control speed range: 5-100rpm External control speed range: 0.1-100rpm, speed precision is 0.1rpm. Power supply: DC11.4-25.2V Power consumption: ≤10W Dimensions (L×W×H): 134×82×90 mm Weight: 0.86kg

Note: Operating condition is temperature 0 to 40°C, relative humidity <80%.

Tubing

Features of peristaltic pump tubing

- Good flexibility. Spring back after pressed radially
- Good wear abrasion resistance
- A certain extent pressure bearing capabilities
- Lower gas permeability
- Low absorption, good temperature resistance, not easy to aging, not swelling, anti-corrosion, fewer extractable

Tubing parameters

Inner diameter and wall thickness are the main parameters of the tubing. Different manufacturers have different notations. Such as: specification codes or inner diameter × wall thickness.

Tubing materials

Silicon rubber, rubber, plastic, synthetic material, etc. Different materials have different characteristics and different applications.

Tubing selection factors

Chemical Compatibility

When transfer different fluids, the tubing should have good chemical characteristics, which is chemical compatibility. Such as: low absorption, good temperature resistance, not easy to aging, not swelling, anti-corrosion, fewer extractable
Chemical resistance decreases as temperature increases. Chemicals that have no effect on the tubing at room temperature could attack the tubing at elevated temperatures.

Chemical compatibility test method:

When the chemical compatibility of the tubing is uncertain, an immersion test is needed. In an immersion test, a small piece of tubing is weighed, and its diameter and length are measured. The tubing then is immersed in a closed vessel with the chemical in question for a minimum of 48 hours. Afterward, the test piece of tubing is rinsed, dried, weighed and measured, and any changes are recorded. The tubing also should be examined for signs of softening or embrittlements, which indicate the chemical has attacked the tubing.

If the tubing survives the test without discoloration, swelling, cracking, loss of flow or other signs of deterioration, then it is compatible with the fluid.

Pressure

Peristaltic pump applications typically have been limited by the pressure capabilities of the tubing.

If the pressure is too high, the tubing could swell, resulting in an improper fit through the pump head, which causes excessive wear and tubing failure

The factors which affect the pressure are material, the proportion of diameter and wall thickness, etc.

Temperature

The working temperature range of a tubing material is another important consideration. Different materials have different temperature range.

Dimension

The size of the tubing has a direct effect on the amount of fluid delivered. Well-designed pumps are engineered to work with an optimum tubing size or range of tubing sizes, taking into account the tubing's inner diameter and wall thickness. The inner diameter determines the amount of fluid delivered with each turn of the rotor. The wall thickness affects the tubing's ability to spring back to its original shape after each compression, which has a great influence on the overall life of the tubing.

Regulatory Approval

Many tubing materials are designed to meet these various regulatory approvals, including those issued by the United States Pharmacopoeia (USP), European Pharmacopoeia (EP), U.S. Food and Drug Administration (FDA), U.S. Department of Agriculture (USDA) and National Sanitation Foundation (NSF).

Tubing Flex Life

Different tubing materials have differing abilities to withstand the repeated squeezing action of the rollers. In general, each tubing size, tubing material, pump head style, and operating speed in combination has its own life characteristics. Service life, or flex life in the pump, is the primary concern in a new application. Pump performance is very consistent in a specific application. Maximize the life of a pump system by selecting a tubing material that offers long flex life, using thicker wall tubing, and/or by operating a larger pump at slower speed.

Tubing

Tubing Types which Longer Company Can Provide

Domestic silicone tubing

■ Platinum-cured silicone tubing: Ultra-smooth inner liner with extremely low leachables, good flexibility, translucent and wide temperature range of -60 to 238°C.

Imported tubing

Tygon®, PharMed®BPT, Viton®, Fluran®, Norprene®, etc.

Note: 1. Specific types of above tubing refer to "Peristaltic Pump Configuration Table".
2. Please contact Longer Company to know all the specification of above tubing.

Tubing Specifications:

Micro & small flow tubing

Tubing Sizes		0.13×0.86	0.5×0.86	0.86×0.86	1.52×0.86	2.06×0.86	2.4×0.86	2.79×0.86	3.17×0.86	1×1	2×1	3×1
Tubing cross sections (1:1)												
Wall thickness (mm)		0.86								1.0		
Inner diameter (mm)		0.13	0.5	0.86	1.52	2.06	2.4	2.79	3.17	1.0	2.0	3.0
Maximum pressure (Mpa)	Continuous	0.1										
	Intermittent	0.1										

Medium flow tubing

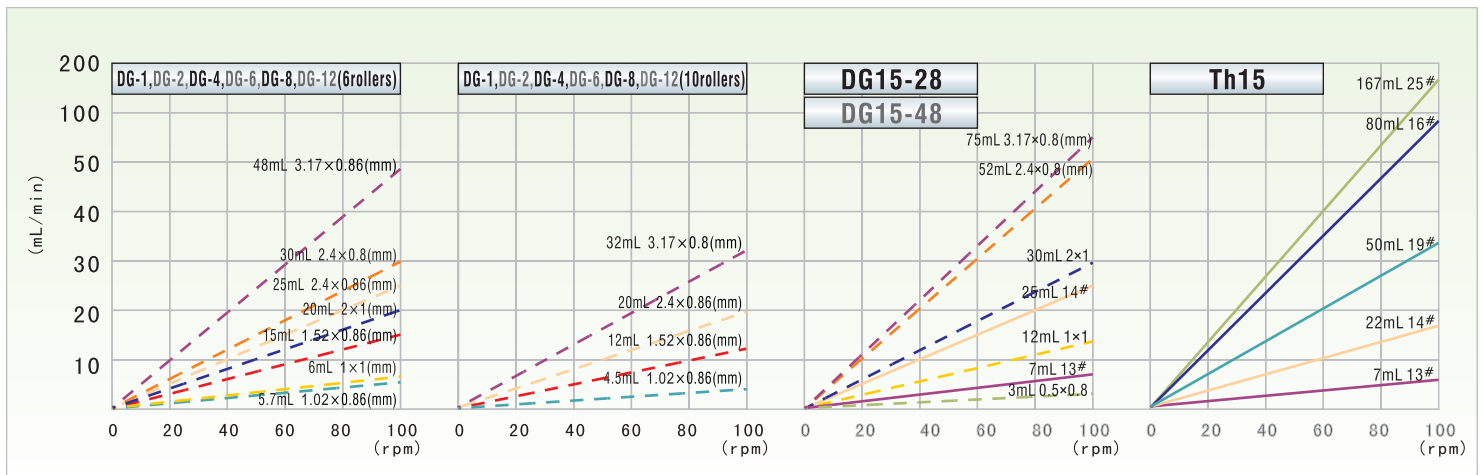
Tubing Sizes		13#	14#	19#	16#	25#	17#	18#	15#	24#	35#	36#	
Tubing cross sections (1:1)													
Wall thickness of domestic tubing (mm)		1.6						2.4					
Wall thickness of imported tubing (inch)		1/16"						3/32"					
Inner diameter of domestic tubing (mm)		0.8	1.6	2.4	3.1	4.8	6.4	7.9	4.8	6.4	7.9	9.6	
Inner diameter of imported tubing (inch)		1/32"	1/16"	3/32"	1/8"	3/16"	1/4"	5/16"	3/16"	1/4"	5/16"	3/8"	
Maximum pressure (Mpa)	Continuous	0.17			0.14			0.10			0.07		
	Intermittent	0.27			0.24			0.14			0.10		

Industrial tubing

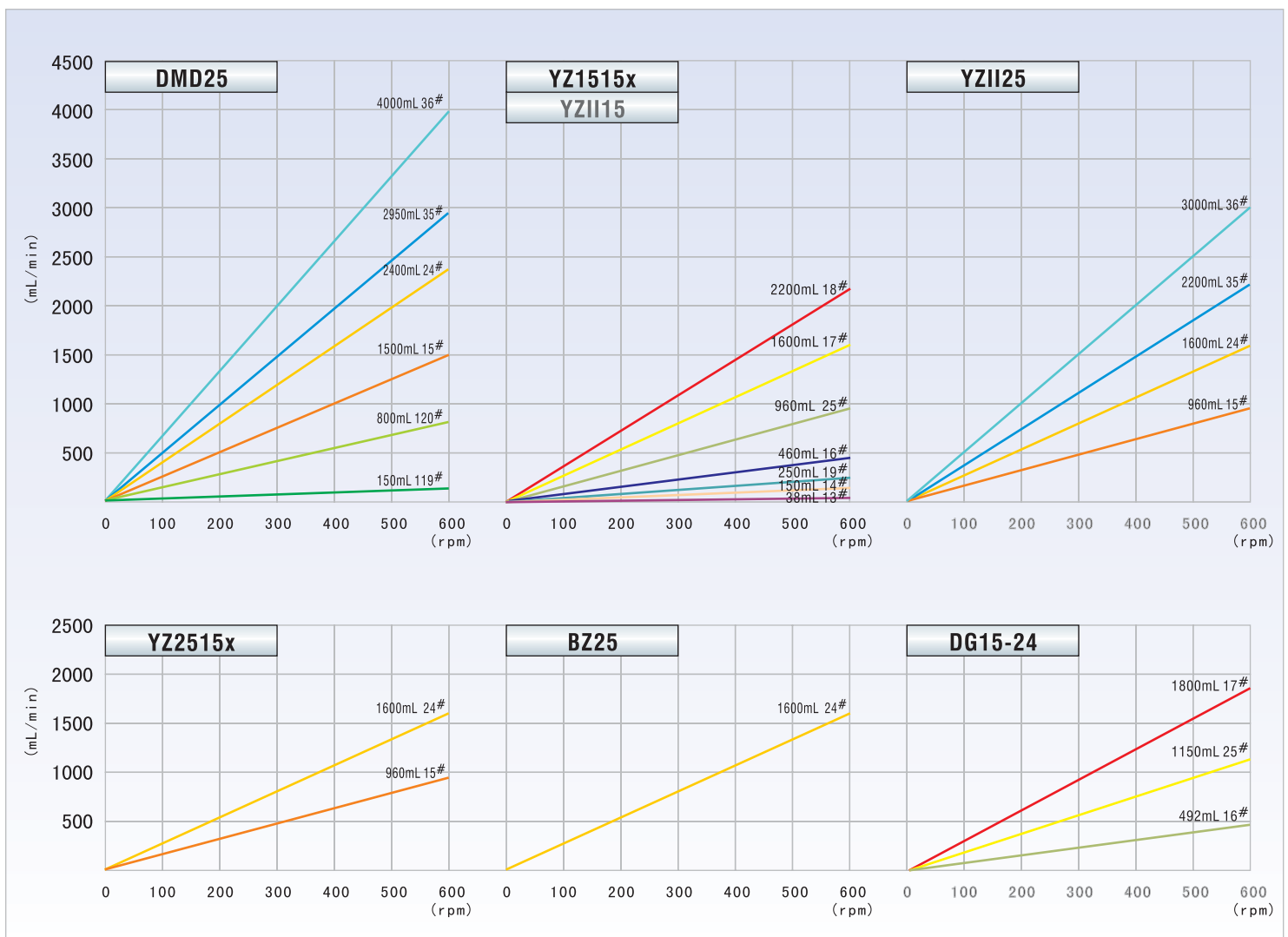
Tubing Sizes		73#	82#	86#	90#	88#	92#	
Tubing cross sections (1:1)								
Wall thickness of domestic tubing (mm)		3.3		6.3		4.8		
Wall thickness of imported tubing (inch)		1/8"		1/4"		3/16"		
Inner diameter of domestic tubing (mm)		9.6	12.7	9.6	19	12.7	25.4	
Inner diameter of imported tubing (inch)		3/8"	1/2"	3/8"	3/4"	1/2"	1"	
Maximum pressure (Mpa)	Continuous	0.17	0.07	0.14				
	Intermittent	0.27	0.14	0.14				

Tubing Ref. Flow Rates Curve

Micro & small flow tubing

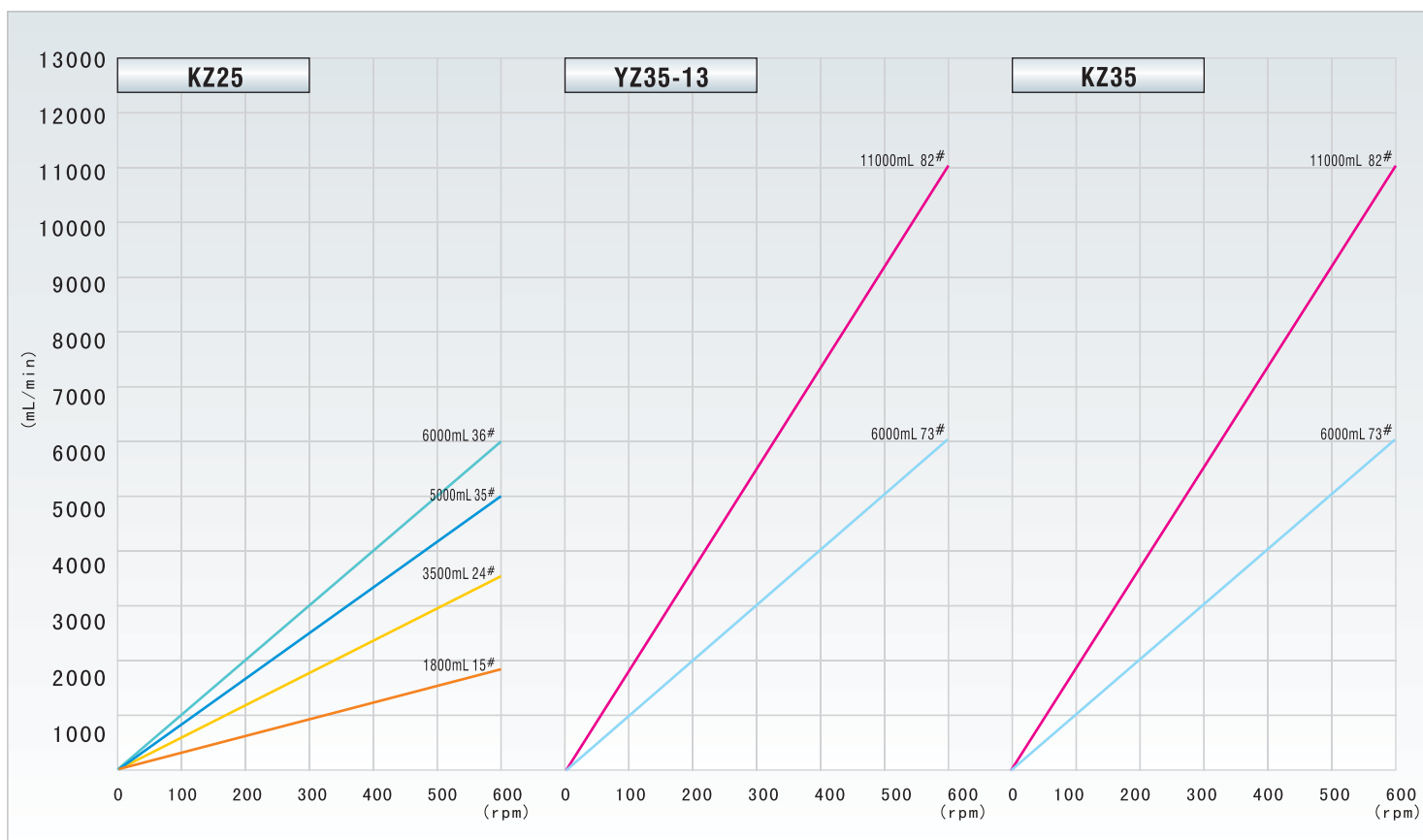


Medium flow tubing



Tubing Ref. Flow Rates Curve

Industrial tubing



Note: Different colorful lines represent different type of tubing.

3.17×0.86(mm)	1.52×0.86(mm)
2.4×0.86(mm)	1.02×0.86(mm)
2.4×0.8(mm)	1×1
2×1(mm)	0.5×0.8

13#	18#	36#
14#	19#	73#
15#	24#	82#
16#	25#	119#
17#	35#	120#

Peristaltic Pump Configuration Table

TUBING

Drive	Pump Head	Tubing						
		Type	Wall Thickness (mm)	ID (mm)	Tubing Number	Remark		
BQ50-1J	WX10-14	Silicone tubing	0.8-1.0	≤3.17		●		
		Tygon F-4040-A	0.86	≤2.06		●		
		Fluran F-5500-A	0.86	≤2.06		●		
		Viton	1.0	≤2		●		
		Pharmed	0.86	≤2.79		●		
		Tygon R-3603	0.8	≤2.4		●		
		Tygon R-3607	0.86	≤2.06		●		
		MHLLss	0.86	2.79		●		
BT100-2J	YZ1515X YZ II 15	Silicone tubing			13 ⁺ 14 ⁺ 19 ⁺ 16 ⁺ 25 ⁺ 17 ⁺ 18 ⁺	●		
		Norprene A-60-G			14 ⁺	●		
		Fluran F-5500-A			14 ⁺	○		
		Pharmed			13 ⁺ 14 ⁺	●		
					19 ⁺ 16 ⁺	○		
		Tygon R-3603			13 ⁺ 14 ⁺	○		
		Tygon 3350			19 ⁺ 16 ⁺ 25 ⁺ 18 ⁺	●		
	YZ2515X YZ II 25	Silicone tubing			15 ⁺ 24 ⁺	●		
		Tygon 3350			15 ⁺	●		
				24 ⁺	○			
	DG-1 (6) DG-1 (10)	Silicone tubing	0.8-1.0	≤3.17			●	
		F-4040-A	0.86	≤2.06			●	
		F-5500-A	0.86	≤2.06			●	
		Viton	0.8-1.0	≤2			●	
		Pharmed	0.86	≤2.79			●	
		Tygon R-3603	0.8	≤2.4			●	
		Tygon R-3607	0.9	≤2.06			●	
		MHLLss	0.86	2.79			●	
		DG-2 (6)	Silicone tubing	0.8-1.0	≤3.17			●
			F-4040-A	0.86	≤2.06			○
			F-5500-A	0.86	≤2.06			●
			Viton	0.8-1.0	≤2			●
			Pharmed	0.86	2.79			●
			Tygon R-3603	0.8	≤2.4			●
DG-2 (10)		Silicone tubing	0.8-1.0	≤3.17			●	
		F-5500-A	0.86	≤2.06			●	
		Viton	0.8-1.0	≤2			●	
	Pharmed	0.86	2.79			●		
	Tygon R-3603	0.8	≤2.4			●		
Tygon R-3607	0.9	≤2.06			●			
BT300-2J	YZ1515X YZ II 15	Silicone tubing			13 ⁺ 14 ⁺ 19 ⁺ 16 ⁺ 25 ⁺ 17 ⁺ 18 ⁺	●		
		Norprene A-60-G			14 ⁺	●		
		Fluran F-5500-A			14 ⁺	●		
					16 ⁺	○		
		Pharmed			13 ⁺ 14 ⁺	●		
		Pharmed			19 ⁺ 16 ⁺	○		
		Tygon R-3603			13 ⁺ 14 ⁺	○		
	YZ2515X YZ II 25	Tygon 3350			19 ⁺ 16 ⁺ 25 ⁺ 18 ⁺	●		
		Silicone tubing			15 ⁺ 24 ⁺	●		
		Tygon 3350			15 ⁺	●		
		Tygon 3350			24 ⁺	○		
	BT600-2J	YZ1515X YZ II 15	Silicone tubing			13 ⁺ 14 ⁺ 19 ⁺ 16 ⁺ 25 ⁺ 17 ⁺ 18 ⁺	●	
			Norprene A-60-G			14 ⁺ 16 ⁺	●	
			Norprene A-60-F			16 ⁺	●	
			Norprene CHEMICAL			16 ⁺ 25 ⁺ 17 ⁺	●	
			Fluran F-4040-A			14 ⁺ 16 ⁺ 25 ⁺ 17 ⁺ 18 ⁺	●	
			Fluran F-5500-A			14 ⁺ 16 ⁺ 25 ⁺ 17 ⁺ 18 ⁺	●	
			Viton			13 ⁺ 14 ⁺ 19 ⁺ 16 ⁺ 25 ⁺ 17 ⁺ 18 ⁺	●	
YZ2515X			Silicone tubing			15 ⁺ 24 ⁺	●	
			Tygon 3350			15 ⁺ 24 ⁺	●	
			YZ II 25	Silicone tubing			15 ⁺ 24 ⁺	●
				Tygon 3350			35 ⁺ 36 ⁺	○
				Tygon 3350			15 ⁺ 24 ⁺	●
		Tygon 3350				15 ⁺ 24 ⁺	●	
YZ1515X×1 YZ II 15×1		Silicone tubing			13 ⁺ 14 ⁺ 19 ⁺ 16 ⁺ 25 ⁺ 17 ⁺ 18 ⁺	●		
		Norprene A-60-G			14 ⁺ 16 ⁺	●		
		Norprene A-60-F			16 ⁺	●		
		Norprene CHEMICAL			16 ⁺ 25 ⁺ 17 ⁺	●		
		Fluran F-4040-A			14 ⁺ 16 ⁺ 25 ⁺ 17 ⁺ 18 ⁺	●		
		Fluran F-5500-A			14 ⁺ 16 ⁺ 25 ⁺ 17 ⁺ 18 ⁺	●		
		Viton			13 ⁺ 14 ⁺ 19 ⁺ 16 ⁺ 25 ⁺ 17 ⁺ 18 ⁺	●		
		YZ1515X×2 YZ II 15×2	Silicone tubing			13 ⁺ 14 ⁺ 19 ⁺ 16 ⁺ 25 ⁺ 17 ⁺ 18 ⁺	●	
			Norprene A-60-G			14 ⁺ 16 ⁺	●	
			Norprene A-60-F			16 ⁺	●	
			Norprene CHEMICAL			16 ⁺	●	
	Norprene CHEMICAL				25 ⁺	○		
Fluran F-4040-A				14 ⁺	●			
Fluran F-4040-A			16 ⁺	○				
YZ2515X×1 YZ II 25×1	Fluran F-5500-A			14 ⁺ 16 ⁺ 25 ⁺ 17 ⁺ 18 ⁺	●			
	Viton			13 ⁺ 14 ⁺ 16 ⁺	●			
	Viton			25 ⁺ 17 ⁺ 18 ⁺	○			
	Pharmed			13 ⁺ 14 ⁺ 19 ⁺ 16 ⁺ 25 ⁺ 17 ⁺ 18 ⁺	●			
	Tygon R-3603			13 ⁺ 14 ⁺ 16 ⁺	●			
	Tygon R-3603			25 ⁺ 17 ⁺ 18 ⁺	○			
	Tygon 3350			19 ⁺ 16 ⁺ 25 ⁺ 18 ⁺	●			
	Tygon 2275			16 ⁺ 25 ⁺ 17 ⁺	○			
	YZ2515X×1	Silicone tubing			15 ⁺ 24 ⁺	●		
		Pharmed			15 ⁺ 24 ⁺	●		
		Tygon R-3603			15 ⁺ 24 ⁺	●		
		Tygon 3350			15 ⁺ 24 ⁺	●		
YZ II 25×1	Silicone tubing			15 ⁺ 24 ⁺	●			
	Pharmed			35 ⁺ 36 ⁺	●			
	Tygon R-3603			15 ⁺ 24 ⁺	●			
	Tygon 3350			15 ⁺ 24 ⁺	●			

Peristaltic Pump Configuration Table

Drive	Pump Head	Tubing					
		Type	Wall Thickness (mm)	ID (mm)	Tubing Number	Remark	
WT600-2J	YZ2515X×2	Silicone tubing			15" 24"	●	
		Pharmed			15" 24"	○	
		Tygon R-3603			15" 24"	○	
		Tygon 3350			15" 24"	●	
	YZ II 25×2	Silicone tubing			15" 24" 35" 36"	●	
		Pharmed			15" 24"	○	
		Tygon R-3603			15" 24"	○	
		Tygon 3350			15" 24"	●	
	KZ25	Silicone tubing			15" 24" 35" 36"	●	
		Tygon R-3603			15" 24"	●	
		Tygon 3350			15" 24"	●	
	DG15-24	Silicone tubing			16"25"17"	●	
		Norprene CHEMICAL					
		Fluran F-4040-A					
		Fluran F-5500-A					
		Viton					
		Pharmed					
		Tygon R-3603					
	Tygon 3350						
	Tygon 2275						
WT600-3J	YZ1515X×1 YZ II 15×1	Silicone tubing			13"14"19" 16"25"17" 18"	●	
		Norprene A-60-G			14" 16"	●	
		Norprene A-60-F			16"	●	
		Norprene CHEMICAL			16"25"17"	●	
		Fluran F-4040-A			13"14"19" 16"25"17" 18"	●	
		Fluran F-5500-A					
		Viton					
		Pharmed			18"	●	
		Tygon R-3603			19" 16" 25" 18"	●	
		Tygon 3350			16"25"17"	●	
	Tygon 2275			13"14"19" 16"25"17" 18"	●		
	YZ1515X×2 YZ II 15×2	Silicone tubing			14" 16"	●	
		Norprene A-60-G			14" 16"	●	
		Norprene A-60-F			16"	●	
		Norprene CHEMICAL			16"	●	
		Fluran F-4040-A			25"	○	
		Fluran F-4040-A			14"	●	
		Fluran F-4040-A			16"	○	
		Fluran F-5500-A			14"16"25" 17" 18"	●	
		Viton			13"14"16"	●	
Viton				25"17"18"	○		
YZ2515X×1	Pharmed			13"14"19" 16"25"17" 18"	●		
	Tygon R-3603			13"14"16"	●		
	Tygon R-3603			25"17"18"	○		
	Tygon 3350			19" 16" 25"18"	●		
	Tygon 2275			16"25"17"	○		
	Silicone tubing			15" 24"	●		
	Pharmed			15" 24"	●		
	Tygon R-3603			15" 24"	●		
	Tygon 3350			15" 24"	●		
	Tygon 3350			15" 24"	●		
WT600-3J	YZ2515X×1 YZ II 25×1	Silicone tubing			15" 24"	●	
		Pharmed			35" 36"	○	
		Tygon R-3603			15" 24"	○	
		Tygon 3350			15" 24"	●	
		YZ2515X×2 YZ II 25×2	Silicone tubing			15" 24"	●
			Pharmed			15" 24"	○
			Tygon R-3603			15" 24"	○
			Tygon 3350			15" 24"	●
		YZ2515X×2 YZ II 25×2	Silicone tubing			15" 24" 35" 36"	●
			Pharmed			15" 24"	○
	Tygon R-3603				15" 24"	○	
	Tygon 3350				15" 24"	●	
	KZ25		Silicone tubing			15" 24" 35" 36"	●
			Tygon R-3603			15" 24"	●
		Tygon 3350			15" 24"	●	
		Tygon 3350			15" 24"	●	
	DG15-24	Silicone tubing			16"25"17"	●	
		Norprene CHEMICAL					
		Fluran F-4040-A					
		Fluran F-5500-A					
Viton							
Pharmed							
Tygon R-3603							
Tygon 3350							
Tygon 2275							
Tygon 2275							
WT600-3J	YZ1515X YZ II 15	Silicone tubing			13"14"19" 16"25"17" 18"	●	
		Norprene A-60-G			14"	●	
		Norprene A-60-G			16"	○	
		Norprene A-60-F			16"	○	
		Norprene CHEMICAL			16"	○	
		Fluran F-5500-A			14" 16"	●	
		Fluran F-5500-A			25"17"18"	○	
		Viton			16"	○	
		Pharmed			13" 14" 19" 16"	●	
		Pharmed			25"17"18"	○	
	YZ2515X YZ II 25	Tygon R-3603			14"	●	
		Tygon 3350			19" 16" 25"18"	●	
		YZ2515X			15" 24"	●	
		Tygon 3350			15" 24"	●	
		YZ II 25			15" 24"	●	
		Tygon 3350			15" 24"	●	
		Silicone tubing			35"36"	○	
		DG-1 (6) DG-1 (10)	Silicone tubing	0.8-1.0	≤3.17		●
			F-4040-A	0.86	≤2.06		●
			F-5500-A	0.86	≤2.06		●
Viton	0.8-1.0		≤2		●		
Pharmed	0.86		2.79		●		
Tygon R-3603	0.8		≤2.4		●		
Tygon R-3607	0.9	≤2.06		●			
MHLLss	0.86	2.79		●			

TUBING

Peristaltic Pump Configuration Table

TUBING

Drive	Pump Head	Tubing					Remark	
		Type	Wall Thickness (mm)	ID (mm)	Tubing Number			
BT100-1F	DG-2 (6)	Silicone tubing	0.8-1.0	≤3.17		●		
		F-4040-A	0.86	≤2.06		○		
		F-5500-A	0.86	≤2.06		●		
		Viton	0.8-1.0	≤2		●		
		Pharmed	0.86	2.79		●		
		Tygon R-3603	0.8	≤2.4		●		
		Tygon R-3607	0.9	≤2.06		●		
	DG-2 (10)	Silicone tubing	0.8-1.0	≤3.17		●		
		F-4040-A	0.86	≤2.06		○		
		F-5500-A	0.86	≤2.06		●		
		Viton	0.8-1.0	≤2		●		
		Pharmed	0.86	2.79		●		
		Tygon R-3603	0.8	2.79		●		
		Tygon R-3607	0.9	≤2.06		●		
	DG-4 (6)	Silicone tubing	0.8-1.0	≤3.17		●		
		F-5500-A	0.86	≤2.06		●		
		Pharmed	0.86	≤2.06		●		
		Pharmed	0.86	2.79		○		
		Tygon R-3603	0.8	≤1.6		●		
		Tygon R-3603	0.8	2.4		○		
		Tygon R-3607	0.9	≤2.06		●		
	DG-4 (10)	Silicone tubing	0.8-1.0	≤3.17		●		
		Pharmed	0.86	≤2.06		●		
		Pharmed	0.86	2.79		○		
		Tygon R-3603	0.8	≤1.6		●		
		Tygon R-3603	0.8	2.4		○		
	BT300-1F	YZ1515X YZ II 15	Silicone tubing			13 ⁺ 14 ⁺ 19 ⁺ 16 ⁺ 25 ⁺ 17 ⁺ 18 ⁺	●	
			Norprene A-60-G			14 ⁺	●	
Fluran F-5500-A					14 ⁺	●		
Fluran F-5500-A					16 ⁺	○		
Pharmed					13 ⁺ 14 ⁺	●		
Pharmed					19 ⁺ 16 ⁺	○		
Tygon R-3603					13 ⁺ 14 ⁺	○		
YZ2515X YZ II 25		Silicone tubing				15 ⁺ 24 ⁺	●	
		Tygon 3350				15 ⁺	●	
		Tygon 3350				24 ⁺	○	
		WT600-1F	YZ1515X×1 YZ II 15×1	Silicone tubing			13 ⁺ 14 ⁺ 19 ⁺ 16 ⁺ 25 ⁺ 17 ⁺ 18 ⁺	●
				Norprene A-60-G			14 ⁺ 16 ⁺	●
Norprene A-60-F						16 ⁺	●	
Norprene CHEMICAL						16 ⁺ 25 ⁺ 17 ⁺	●	
Fluran F-4040-A						14 ⁺ 16 ⁺ 25 ⁺ 17 ⁺ 18 ⁺	●	
Fluran F-5500-A						14 ⁺ 16 ⁺ 25 ⁺ 17 ⁺ 18 ⁺	●	
Viton						13 ⁺ 14 ⁺ 16 ⁺ 25 ⁺ 17 ⁺ 18 ⁺	●	
Pharmed						13 ⁺ 14 ⁺ 19 ⁺ 16 ⁺ 25 ⁺ 17 ⁺ 18 ⁺	●	
Tygon R-3603						13 ⁺ 14 ⁺ 16 ⁺ 25 ⁺ 17 ⁺ 18 ⁺	●	
Tygon 3350						19 ⁺ 16 ⁺ 25 ⁺ 18 ⁺	●	
Tygon 2275				16 ⁺ 25 ⁺ 17 ⁺	●			
WT600-1F		YZ1515X×2 YZ II 15×2	Silicone tubing			13 ⁺ 14 ⁺ 19 ⁺ 16 ⁺ 25 ⁺ 17 ⁺ 18 ⁺	●	
	Norprene A-60-G				14 ⁺ 16 ⁺	●		
	Norprene A-60-F				16 ⁺	●		
	Norprene CHEMICAL				16 ⁺ 25 ⁺ 17 ⁺	○		
	Fluran F-4040-A				14 ⁺ 16 ⁺ 25 ⁺ 17 ⁺ 18 ⁺	●		
	Fluran F-5500-A				14 ⁺ 16 ⁺ 25 ⁺ 17 ⁺ 18 ⁺	●		
	Viton				13 ⁺ 14 ⁺ 16 ⁺ 25 ⁺ 17 ⁺ 18 ⁺	●		
	Pharmed				13 ⁺ 14 ⁺ 19 ⁺ 16 ⁺ 25 ⁺ 17 ⁺ 18 ⁺	●		
	Tygon R-3603				13 ⁺ 14 ⁺ 16 ⁺ 25 ⁺ 17 ⁺ 18 ⁺	●		
	Tygon 3350				19 ⁺ 16 ⁺ 25 ⁺ 18 ⁺	●		
	YZ1515X×1 YZ II 15×1	Silicone tubing				13 ⁺ 14 ⁺ 19 ⁺ 16 ⁺ 25 ⁺ 17 ⁺ 18 ⁺	●	
		Norprene A-60-G				14 ⁺ 16 ⁺	●	
		Norprene A-60-F				16 ⁺	●	
		Norprene CHEMICAL				16 ⁺ 25 ⁺ 17 ⁺	○	
		Fluran F-4040-A				14 ⁺ 16 ⁺ 25 ⁺ 17 ⁺ 18 ⁺	●	
		Fluran F-5500-A				14 ⁺ 16 ⁺ 25 ⁺ 17 ⁺ 18 ⁺	●	
		Viton				13 ⁺ 14 ⁺ 16 ⁺ 25 ⁺ 17 ⁺ 18 ⁺	●	
		Pharmed				13 ⁺ 14 ⁺ 19 ⁺ 16 ⁺ 25 ⁺ 17 ⁺ 18 ⁺	●	
		YZ1515X×2 YZ II 15×2	Silicone tubing				13 ⁺ 14 ⁺ 19 ⁺ 16 ⁺ 25 ⁺ 17 ⁺ 18 ⁺	●
			Norprene A-60-G				14 ⁺ 16 ⁺	●
		YZ1515X×2 YZ II 15×2	Norprene A-60-F				16 ⁺	●
			Norprene CHEMICAL				16 ⁺ 25 ⁺ 17 ⁺	○
YZ1515X×2 YZ II 15×2	Fluran F-4040-A				14 ⁺ 16 ⁺ 25 ⁺ 17 ⁺ 18 ⁺	●		
	Fluran F-5500-A				14 ⁺ 16 ⁺ 25 ⁺ 17 ⁺ 18 ⁺	●		
YZ1515X×2 YZ II 15×2	Viton				13 ⁺ 14 ⁺ 16 ⁺ 25 ⁺ 17 ⁺ 18 ⁺	●		
	Pharmed				13 ⁺ 14 ⁺ 19 ⁺ 16 ⁺ 25 ⁺ 17 ⁺ 18 ⁺	●		

Peristaltic Pump Configuration Table

Drive	Pump Head	Tubing					
		Type	Wall Thickness (mm)	ID (mm)	Tubing Number	Remark	
BT100-1L	YZ1515X×2 YZ II 15×2	Tygon R-3603			13 [#] 14 [#] 16 [#] 25 [#] 17 [#] 18 [#]	●	
		Tygon 3350			19 [#] 16 [#] 25 [#] 18 [#]	●	
		Tygon 2275			16 [#] 25 [#] 17 [#]	●	
	YZ1515X×3 YZ II 15×3	Silicone tubing			13 [#] 14 [#] 19 [#] 16 [#] 25 [#] 17 [#] 18 [#]	●	
		Norprene A-60-G			14 [#]	●	
		Norprene A-60-G			16 [#]	○	
		Norprene A-60-F			16 [#]	○	
		Norprene CHEMICAL			16 [#]	○	
		Fluran F-4040-A			14 [#] 16 [#]	●	
		Fluran F-5500-A			25 [#] 17 [#] 18 [#]	○	
		Viton			13 [#]	●	
		Viton			14 [#]	○	
		Pharmed			13 [#] 14 [#] 19 [#] 16 [#]	●	
	YZ1515X×4 YZ II 15×4	Silicone tubing			13 [#] 14 [#] 19 [#] 16 [#] 25 [#] 17 [#] 18 [#]	●	
		Norprene A-60-G			14 [#]	●	
		Fluran F-5500-A			14 [#] 16 [#]	○	
		Viton			13 [#]	●	
		Pharmed			13 [#] 14 [#]	●	
		Tygon R-3603			13 [#]	●	
		Tygon 3350			19 [#] 16 [#] 25 [#] 18 [#]	●	
	YZ2515X×1	Silicone tubing			15 [#] 24 [#]	●	
		Pharmed			15 [#] 24 [#]	●	
		Tygon R-3603			15 [#] 24 [#]	●	
		Tygon 3350			15 [#] 24 [#]	●	
		YZ II 25×1	Silicone tubing			15 [#] 24 [#]	●
			Pharmed			35 [#] 36 [#]	●
			Tygon R-3603			15 [#] 24 [#]	●
		YZ2515X×2	Tygon 3350			15 [#] 24 [#]	●
			Silicone tubing			15 [#] 24 [#]	●
			Pharmed			15 [#] 24 [#]	○
			Tygon R-3603			15 [#] 24 [#]	○
		YZ2515X×3	Tygon 3350			15 [#] 24 [#]	●
	Silicone tubing				15 [#] 24 [#]	●	
	Tygon 3350				15 [#] 24 [#]	●	
	YZ2515X×4	Silicone tubing			15 [#] 24 [#]	●	
		Tygon 3350			15 [#] 24 [#]	○	
	YZ II 25×2	Silicone tubing			15 [#] 24 [#] 35 [#] 36 [#]	●	
		Pharmed			15 [#] 24 [#]	○	
		Tygon R-3603			15 [#] 24 [#]	○	
		Tygon 3350			15 [#] 24 [#]	●	
	DG15-24	Silicone tubing				●	
		Norprene CHEMICAL				●	
		Fluran F-4040-A				●	
		Fluran F-5500-A				●	
		Viton			16 [#] 25 [#] 17 [#]	●	
		Pharmed				○	
		Tygon R-3603				●	
		Tygon 3350				○	
		Tygon 2275				●	

Drive	Pump Head	Tubing					
		Type	Wall Thickness (mm)	ID (mm)	Tubing Number	Remark	
BT100-1L	DG15-28	Silicone tubing	0.8-1.0	≤3.17	13 [#] 14 [#]	●	
		Norprene A-60-G			14 [#]	●	
		Norprene A-60-G			17 [#]	○	
		Pharmed	0.86	≤2.79	13 [#] 14 [#]	●	
		Tygon R-3603	0.8	≤2.4	13 [#] 14 [#]	●	
		F-4040-A	0.86	≤2.06		●	
		F-5500-A	0.86	≤2.06		●	
		Viton	0.8-1.0	≤2		●	
		Tygon R-3607	0.9	≤2.06		●	
		DG15-48	Silicone tubing	0.8-1.0	≤2	13 [#] 14 [#]	● ○
	F-4040-A		0.86	≤1.65		●	
	F-5500-A		0.86	≤1.6		●	
	Viton		0.8-1.0	≤2		○	
	Pharmed		0.86	<2.54		●	
	Pharmed		0.86	2.54, 2.79		○	
	Tygon R-3603		0.8	≤2.4		●	
	Tygon R-3607		0.9	<2.06		●	
	DG-(2, 4, 6, 8, 12) (6, 10 rollers)		Silicone tubing	0.8-1.0	≤3.17		●
			F-4040-A	0.86	≤2.06		●
		F-5500-A	0.86	≤2.06		●	
		Viton	0.8-1.0	≤2		●	
		Pharmed	0.86	≤2.79		●	
		Tygon R-3603	0.8	≤2.4		●	
		Tygon R-3607	0.9	≤2.06		●	
		DG-16 (6)	Silicone tubing	0.8-1.0	≤3.17		●
	F-5500-A		0.86	1.6		●	
	Pharmed		0.86	≤2.06		●	
	Pharmed		0.86	2.54		○	
	Tygon R-3603		0.8	<0.76		●	
	Tygon R-3603		0.8	≥0.76		○	
	Tygon R-3607		0.9	≤1.85		●	
	Tygon R-3607		0.9	2.06		○	
	DG-16 (10)		Silicone tubing	0.8-1.0	<3		●
			Silicone tubing	1.0	3		○
		F-5500-A	0.86	1.6		○	
		Pharmed	0.86	≤1.65		●	
		Pharmed	0.86	>1.65		○	
		Tygon R-3603	0.8	≥0.76		○	
		Tygon R-3603	0.8	<0.76		●	
		Tygon R-3607	0.9	<1.85		●	
Tygon R-3607		0.9	≥1.85		○		
DG-24 (6)		Silicone tubing	0.8-1.0	≤3.17		●	
	Pharmed	0.86	≤1.65		●		
DG-24 (10)	Silicone tubing	0.8-1.0	<2		●		
	Silicone tubing	0.8-1.0	≥2		○		
LEAD-2	LEAD15-24			16 [#] 25 [#] 17 [#]	●		
	LEAD15-44			16 [#]	●		
	LEAD15-28	Silicone tubing		13 [#] 14 [#]	●		
	LEAD15-48			13 [#]	●		
				14 [#]	○		

Note: ● means Good;
○ means Fair

TUBING

Fitting

Four materials are available for fittings. These fittings match perfectly to the tubing to ensure smooth flow and a proper fit.

High-Density Polyethylene (HDPE): Very good chemical resistance. Temperature range: -53 to 87°C. Sterilize by ethylene oxide only.






Nylon: Good chemical resistance.

Temperature range: -40 to 93°C. Sterilize by ethylene oxide only.

Natural Polypropylene (Natural PP): Very good chemical resistance. Temperature range: -17 to 135°C. Sterilize by ethylene oxide or autoclave.

PVDF: Excellent chemical resistance. Temperature range: -62 to 129°C. Sterilize by ethylene oxide or autoclave.

FITTINGS

Fitting Type	Connector ID	Use with tubing sizes		
		Laboratorial Type	Industrial Type	Batch Transferring Type
 Straight connectors	1/16" (1.6mm)	13# 14#	-	-
	1/8" (3.2mm)	16#	-	-
	3/16" (4.8mm)	15# 25#	-	-
	1/4" (6.4mm)	17# 24#	26#	-
	3/8" (9.6mm)	18# 35# 36#	70# 73#	86#
	1/2" (12.7mm)	-	82# 88#	88#
	5/8" (15.9mm)	-	89#	-
	3/4" (19.0mm)	-	-	90#
	1" (25.4mm)	-	-	92#
 "T" type connectors	1/16" (1.6mm)	13# 14#	-	-
	1/8" (3.2mm)	16#	-	-
	3/16" (4.8mm)	15# 25#	-	-
	1/4" (6.4mm)	17# 24#	26#	-
	3/8" (9.6mm)	18# 35# 36#	70# 73#	86#
	1/2" (12.7mm)	-	82# 88#	88#
	5/8" (15.9mm)	-	89#	-
	3/4" (19.0mm)	-	-	90#
	1" (25.4mm)	-	-	92#
 "Y" type connectors	1/16" (1.6mm)	13# 14#	-	-
	1/8" (3.2mm)	16#	-	-
	3/16" (4.8mm)	15# 25#	-	-
	1/4" (6.4mm)	17# 24#	26#	-
	3/8" (9.6mm)	18# 35# 36#	70# 73#	86#
	1/2" (12.7mm)	-	82# 88#	88#
 Male threaded connectors	1/8" x 1/8"	16#	-	-
	3/16" x 1/8"	15# 25#	-	-
	1/4" x 1/4"	17# 24#	26#	-
	3/8" x 1/4"	18# 35# 36#	70# 73#	86#
	1/2" x 1/2"	-	82# 88#	88#
	5/8" x 1/2"	-	89#	-
	3/4" x 1/2"	-	-	90#
 Reducing connectors	1/16" x 1/8"	13# 14#	-	-
	1/8" x 3/32"	16#	-	-
	3/16" x 1/8"	15# 25#	-	-
	1/4" x 1/8"	17# 24#	26#	-
	3/8" x 1/4"	18# 35# 36#	70# 73#	86#
	1/2" x 3/8"	-	82# 88#	88#
	5/8" x 1/2"	-	89#	-
	3/4" x 1/2"	-	-	90#
	1" x 1/2"	-	-	92#

Accessories

Standard External Control Interface



Applicable Drive Types

BQ50 - 1J BT100 - 1L
 BT100 - 2J BT100 - 1F
 BT300 - 2J BT300 - 1F
 BT600 - 2J WT600 - 2J
 LEAD - 2 WT600 - 1F

Five Kinds of Control Modes

0 - 5V analog input
 0 - 10V analog input
 4 - 20mA analog input
 0 - 10kHz Pulse Input
 Communication control

Note: Please see above picture for part numbers

Dispensing Controller



Type	Part Number	Function and Feature
FK - 1C	0505212	Dispensing controller can be equipped with many peristaltic pumps to realize dispensing automatically

Footswitch



Type	Connector	Part Number	Applicable Products
JK - 1	DB - 9	0505201	Peristaltic Pump
JK - 2	DB - 9	0505202	Dispensing Controller
JK - 3	DB - 15	0505203	Peristaltic Pump
JK - 4	DB - 9	0505204	LSP Series Syringe Pump (the PCB board of the pump needs to be modified)
JK - 5	DB - 15	0505205	TJ Series Syringe Pump
JK - 6	None	0505206	TS Series Syringe Pump

Footswitch Working Modes

JK-1	1. Gated: Connect the footswitch to the pump. The pump stops after power up. The pump runs as long as the footswitch is pressed.
	2. Trigger: Connect the footswitch to the pump. The pump stops after power up. Press footswitch, the pump starts running. Press footswitch again, the pump stops.
JK-2	Trigger: Press the footswitch one time, dispensing controller FK-1C starts running according to the set running time. When the set running time is out, FK-1C stops.
JK-3	Gated: The pump runs as long as the footswitch is pressed.
JK-4	1. Gated: Connect the footswitch to the pump. The pump stops after power up. The pump runs as long as the footswitch is pressed.
	2. Trigger: Connect the footswitch to the pump. The pump stops after power up. Press footswitch, the pump starts running. Press footswitch again, the pump stops.
JK-5	Trigger: Connect the footswitch to the pump. The pump stops after power up. Press footswitch, the pump starts running. Press footswitch again, the pump stops.
JK-6	Trigger: Connect the footswitch to the pump. The pump stops after power up. Press footswitch, the pump starts running. Press footswitch again, the pump stops.

TJ-1A/L0107-1A SYRINGE PUMP

TJ-2A/L0107-2A



The pumps combine precision, compact size with ease of install and operation. It can hold μL unit standard glass syringe. The features of accurate distance control and broad linear speed range (7.94 $\mu\text{m}/\text{min}$ - 79.4 mm/min) can meet versatile requirements. Its vertical (horizontal) installation structure makes this pump easily used in micromanipulator, stereotaxic instrument for various biologic research applications.

Functions and Features

- Working mode:** TJ-1A/L0107-1A: Infusion
TJ-2A/L0107-2A: Infusion, withdrawal, infusion/withdrawal, withdrawal/infusion, continuous
- User-defined glass syringe:** Save 4 inner diameters of user-defined glass syringe barrel
- Linear force output:** Full stroke $>20\text{ N}$
- Memory function:** Select resume operation or remain stopped when power returns after an interruption
- Signal output:** Start/Stop output, cw/ccw output (open collector)
- Calibration:** Acquire accurate volume through calibration
- Fast forward & fast reverse:** Infusion or filling at the max. Speed

Specifications

- Max. Infusion distance:** 70 mm
- Acceptable glass syringe:** 5 - 1000 (μL)
- Linear speed:** 7.94 $\mu\text{m}/\text{min}$ - 79.4 mm/min
- Adjusting resolution:** 7.94 $\mu\text{m}/\text{min}$
- Distance resolution:** 0.165 μm
- Linear force:** $>2\text{ kgf}$
- Operating mode:** Membrane keypad and rotary encoded switch
- Accuracy:** $\leq \pm 0.5\%$ error in the condition of $\geq 30\%$ of max. infusion distance
- Display:** 128 \times 64 graphic LCD
- External control:** Start/Stop control, fast forward control, fast reverse control
- Communication interface:** RS485
- Power Supply:** AC 100 V - 240 V or DC 12 V
- Power consumption:** $\leq 10\text{ W}$
- Operating condition:**
Temperature 0 - 40 $^{\circ}\text{C}$
Relative humidity $<80\%$
- Controller dimensions (L \times W \times H):** 170 \times 108 \times 65 (mm)
- Controller weight:** 0.5 kg
- Drive unit dimensions (L \times W \times H):** 180 \times 46 \times 78 (mm)
- Drive unit weight:** 0.6 kg
- IP rating:** IP 21

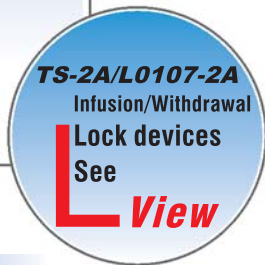
Syringe Pump (Part Number)	Glass Syringe Specification (μL)	Barrel Inner Diameter (mm)	Effective Stroke (mm)	Flow Rates (nL/min - $\mu\text{L}/\text{min}$)	Syringe Material	Weight (kg)
TJ - 1A / L0107 - 1A (0503101) (0503001)	5	0.35	51.97	0.764 - 7.64	Glass Syringe	Controller 0.5 Drive Unit 0.6
	10	0.50	50.93	1.559 - 15.59		
	25	0.80	49.74	3.989 - 39.89		
TJ - 2A / L0107 - 2A (0503111) (0503011)	50	1.10	52.61	7.544 - 75.44		
	100	1.60	49.74	15.96 - 159.6		
	250	2.30	60.17	32.98 - 329.8		
	500	3.25	60.27	65.85 - 658.5		
	1000	4.61	59.91	132.5 - 1325		

Note: Flow rates = Linear rate \times Section area of the barrel

TS-1A/L0107-1A TS-2A/L0107-2A SYRINGE PUMP



The pumps combine precision, compact size, multiple functions with ease of operation. It can hold μL unit standard glass syringe. The features of accurate distance control and broad linear speed range ($7.94\mu\text{m}/\text{min}$ - $79.4\text{mm}/\text{min}$) can meet versatile requirements. The drive unit is separate, easy to installation and combination. Its vertical (horizontal) installation structure makes this pump easily used in micromanipulator, stereotaxic instrument for various biologic research applications.



SYRINGE PUMP

Specifications

Max. infusion distance: 70 mm
Acceptable glass syringe: 5 μL - 1000 μL
Linear speed: 7.94 $\mu\text{m}/\text{min}$ - 79.4 mm/min
Adjusting resolution: 7.94 $\mu\text{m}/\text{min}$
Distance resolution: 0.165 μm
Linear force: >20 N
Operating mode: Membrane keypad and rotary encoded switch
Accuracy: $\leq \pm 0.5\%$ error in the condition of $\geq 30\%$ of max. infusion distance
Display: 128 \times 64 graphic LCD
External control: Start/Stop control, fast forward control, fast reverse control
Communication interface: RS485
Power: AC 100 V - 240 V or DC 12 V
Power consumption: <40 W
Operating condition: Temperature 0 - 40 $^{\circ}\text{C}$
 Relative humidity <80 %
Controller dimensions (L \times W \times H):
 235 \times 178 \times 74 (mm)
Controller weight: 0.9 kg
Drive unit dimensions (L \times W \times H):
 180 \times 46 \times 78 (mm)
Drive unit weight: 0.6 kg
IP rating: IP 21

Functions and Features

Parameters setting: The parameters of each channel can be different.
Running control: Each drive unit can be controlled separately; Or four drive units can be controlled to run simultaneously or run at different time.
Channel copy: All drive units can run according to the parameters of one drive units of them
Delaying startup: Delaying startup time of each channel can be controlled separately
Memory function: Select resume operation or remain stopped when power returns after an interruption
Block protection: When one drive unit stops accidentally, the system will warm and stop
Working mode: TS-1A/L0107-1A: Infusion
 TS-2A/L0107-2A: Infusion, withdrawal, infusion/withdrawal, withdrawal/infusion, continuous
External control: Start/stop input control signal which is pulse mode to switch the states of start and stop
 Each channel has two ways OC gate output to indicate the start/stop and direction of the channel
Communication: Realize computer control through RS485 communication interface

Main Functions for Each Channel

Syringe selection: The syringe can be selected in the manufacturer table which includes manufacturer, material and size
User-defined glass syringe: Save 4 inner diameters of user-defined glass syringe barrel
Parameters setting: Set dispensing volume, infusion time, pause time and copy number
Display mode selection: Different parameters (volume, flow rate, linear speed) can be selected in the main display interface
Fast forward & fast reverse: Infusion or withdrawal at the max. speed
Calibration: Acquire accurate volume through calibration

Syringe Pump (Part Number)	Glass Syringe Specification (μL)	Barrel Inner Diameter (mm)	Effective Stroke (mm)	Flow Rates (nL/min - $\mu\text{L}/\text{min}$)	Syringe Material	Weight (kg)
TS - 1A / L0107 - 1A (0503151) (0503001)	5	0.35	51.97	0.764 - 7.64	Glass Syringe	Controller 0.8 Drive Unit 0.6
	10	0.50	50.93	1.559 - 15.59		
	25	0.80	49.74	3.989 - 39.89		
TS - 2A / L0107 - 2A (0503161) (0503011)	50	1.10	52.61	7.544 - 75.44		
	100	1.60	49.74	15.96 - 159.6		
	250	2.30	60.17	32.98 - 329.8		
	500	3.25	60.27	65.85 - 658.5		
	1000	4.61	59.91	132.5 - 1325		

Note: Flow rates = Linear rate \times Section area of the barrel

TJ-3A/W0109-1B Syringe Pump

TJP-3A/W0109-1B



TJ-3A is a single channel micro syringe pump which has infusion/withdrawal mode. It combines precision, compact size, multiple functions with ease of operation. It can hold unit standard syringe. The features of accurate milliliter distance control and broad linear speed range (7.94 μm/min - 79.4 mm/min) can meet versatile requirements. The drive unit is independent. It is easy to combination and installation. It can meet different operation requirements and is suitable for various research fields.

TJP-3A owns all the functions of TJP-3A; the only difference is TJP-3A has extra programmable functions on the base of TJ-3A. Customer can set/operate one step or combining several steps through program mode.

Specifications

Max. infusion distance	90 mm
Acceptable syringe	5 μL - 60 mL
Linear speed	7.94 μm/min - 79.4 mm/min
Adjusting resolution	7.94 μm/min
Distance resolution	0.165 μm
Linear force	>90 N
Infusion volume Per microstep	0.11 μL (60ml syringe)
Max. step speed	5333.3 (1/16 step)/sec
Min. step speed	16 (1/16 step)/30 sec
Setting mode	Membrane keypad and rotary encoded switch
Accuracy	≤ ±0.5% error in the condition of 30% of max.infusion distance
Display	128×64 graphic LCD
Power supply	AC 100 V - 240 V or DC 12 V
Power consumption	≤10 W
Operating condition	Temperature 0 - 40 °C, relative humidity 80 %
Controller dimensions (L × W × H)	170×108×65 (mm)
Controller weight	0.5 kg
Drive unit dimensions (L × W × H)	245×100×95 (mm)
Drive unit weight	1.3 kg

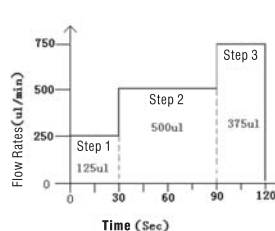
TJ-3A & TJP-3A Functions

- User-defined syringe: Save 4 inner diameters of user-defined syringe barrel
- User can select syringe from syringe list or input syringe barrel diameter to confirm the syringe.
- Linear force output: Whole course 90 N
- Signal output: Start/Stop output, cw/ccw output (open collector)
- Calibration: Acquire accurate volume through calibration
- Fast forward & fast reverse: Infusion or withdrawal at the max. speed
- Communication function: Realize computer control through RS485 communication interface
- External input interface:
 1. External start/stop input
 2. Trigger input in program mode (for TJP-3A only)
- External output interface:
 1. Two OC gate output start/stop signal to indicate the start/stop and direction of the pump.
 2. Status output in program mode (for TJP-3A only)

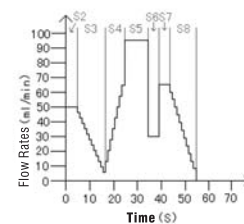


TJP-3A Programmable Functions

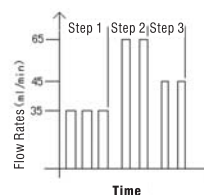
- In program mode, TJP-3A can use single step to implement specific function or combine multi-steps to implement complicate operation.
- In program mode, user can choose schemes of uniform speed, speed increment, speed decrement, dispensing trigger, etc.
- In program mode, the operation schemes are shown as below:



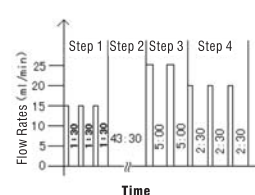
1. Multi-step uniform speed (profile) infusion



2. Complicated curve of Uniform Speed & Uneven Speed



3. Trigger Dispense



4. Periodic Dispense

Syringe Pump (Part Number)	Glass Syringe Specification (mL)	Barrel Inner Diameter (mm)	Effective Stroke (mm)	Flow Rates (μL/min - mL/min)	Syringe	Weight (kg)
TJ-3A/W0109-1B (0503121)	1	4.7	57.00	0.138-1.38	Glass Syringe Plastic Syringe Glass Injector	Drive Unit 1.3 Controller 0.5
	2	9.0	31.20	0.505-5.05		
	5	13.1	37.10	1.07-10.7		
TJP-3A/W0109-1B (0503131)	10	14.8	58.20	1.366-13.66		
	20	19.0	70.10	2.251-22.51		
	30	23.0	72.00	3.298-32.98		
(0503021)	60	29.1	89.96	5.294-52.94		

Note: Flow rates=Linear rate × Section area of the barrel

TS-1B/W0109-1B Syringe Pump

This pump is a four-channel micro syringe pump which has infusion/withdrawal mode. It combines precision, compact size, multiple functions with ease of operation. It can hold milliliter unit standard syringe. The features of accurate distance control and broad linear speed range (7.94 $\mu\text{m}/\text{min}$ - 79.4 mm/min) can meet versatile requirements. The drive unit is independent. It is easy to combination and installation. It can perform complex operation and is suitable for various research fields.



Specifications

- Max. infusion distance:** 90 mm
- Acceptable syringe:** 5 μL - 60 mL
- Linear speed:** 7.94 $\mu\text{m}/\text{min}$ - 79.4 mm/min
- Adjusting resolution:** 7.94 $\mu\text{m}/\text{min}$
- Distance resolution:** 0.165 μm
- Linear force:** >90 N
- Operating mode:** Membrane keypad and rotary encoded switch
- Accuracy:** $\leq \pm 0.5\%$ error in the condition of $\geq 30\%$ of max. infusion distance
- Display:** 128 \times 64 graphic LCD
- External control:** Start/stop control
- Communication interface:** RS485
- Power:** AC 100 V - 240 V or DC 12 V
- Power consumption:** ≤ 40 W
- Operating condition:**
 Temperature 0 - 40 $^{\circ}\text{C}$
 Relative humidity < 80 %
- Controller dimensions (L \times W \times H):** 235 \times 178 \times 74 (mm)
- Controller weight:** 0.9 kg
- Drive unit dimensions (L \times W \times H):** 245 \times 100 \times 95 (mm)
- Drive unit weight:** 1.3 kg

Functions and Features

- Parameters setting:** The parameters of each channel can be different.
- Running control:** Each drive unit can be controlled separately; Or four drive units can be controlled to run simultaneously or run at different time.
- Channel copy:** All drive units can run according to the parameters of one drive units of them
- Delaying startup:** Delaying startup time of each channel can be controlled separately
- Memory function:** Select resume operation or remain stopped when power returns after an interruption
- Block protection:** When one drive unit stops accidentally, the system will warm and stop
- Working mode:** Infusion, withdrawal, infusion/withdrawal, withdrawal/infusion, continuous
- External Control:** Accept pulse signal to control the start/stop of the pump. Each channel has two ways OC gate output to indicate the start/stop and direction of the channel
- Communication:** Realize computer control through RS485 communication interface

Main Functions for Each Channel

- Syringe selection:** The syringe can be selected in the manufacturer table which includes manufacturer, material and size
- User-defined syringe:** Save 4 inner diameters of user-defined glass syringe barrel
- Working mode:** Infusion, withdrawal, infusion/withdrawal, withdrawal/infusion, continuous
- Parameters setting:** Set dispensing volume, infusion time, withdrawal time, pause time and copy number
- Display mode selection:** Different parameters (volume, flow rates, linear speed) can be selected in the main display interface
- Fast forward & fast reverse:** Infusion and withdrawal at the max. speed
- Calibration:** Acquire accurate volume through calibration

Syringe Pump (Part Number)	Glass Syringe Specification (mL)	Barrel Inner Diameter (mm)	Effective Stroke (mm)	Flow Rates ($\mu\text{L}/\text{min}$ - mL/min)	Syringe Material	Weight (kg)
TS - 1B / W0109 - 1B (0503171) (0503021)	1	4.7	57.0	0.138 - 1.38	Class Syringe Plastic Syringe	Controller 0.8 Drive Unit 1.3
	2	8.98	31.6	0.503 - 5.03		
	5	12.25	42.5	0.936 - 9.36		
	10	14.9	58.2	1.385 - 13.85		
	20	19.05	70.0	2.263 - 22.63		
	30	22.05	78.0	3.032 - 30.32		
	60	29.15	89.9	5.299 - 52.99		

Note: Flow rates = Linear rate \times Section area of the barrel

LSP01-1A/2A, LSP04-1A Syringe Pump



Functions and Features

Syringe selection: The syringe can be selected in the manufacturer table which includes manufacturer, material and size or input the inner diameter of the syringe barrel directly

Easy to operate: Combining big screen LCD display with rotary encoded switch and membrane keypad makes the operation simple and prompt

Working mode: Infusion

Memory function:

1. The parameters are saved in EEPROM. The parameters don't need to be reset when power returns after an interruption
2. In flow rates mode, the pump remains running or stop according to the setting parameters when power returns after an interruption

Protection function: The pump will stall and give an alarm when the drive structure of the pump is blocked

Communication function: Realize computer control through RS485 communication interface

External control function: Input/output control

Calibration function: Acquire accurate volume through calibration

Syringe protection: Adjust syringe rest to prevent syringe from damaging

LSP01-1A/2A and LSP04-1A are infusion only syringe pumps. They are suitable for high accuracy and small flow rates liquid transferring.

Specifications Comparison Table

Syringe Pump	LSP01 - 1A	LSP01 - 2A	LSP04 - 1A
Max. No. of syringes	1	1	4
Infusion volume per microstep	0.13 μ L (60 mL Syringe)	0.026 μ L (60 mL Syringe)	0.026 μ L (10mLSyringe)
Syringe size	10 μ L - 60mL	10 μ L - 60mL	10 μ L - 10mL
Flow rates	0.831nL/min - 54.155mL/min	0.166nL/min - 10.83mL/min	0.831nL/min - 21.675mL/min
Advance per microstep	1/16step: 0.156 μ m	1/16step: 0.03125 μ m	1/16step: 0.156 μ m
Max. linear rate	65mm/min	13mm/min	130mm/min
Min. linear rate	5 μ m/min	1 μ m/min	5 μ m/min
Max. step rate	6933 (1/16step) / sec		13867 (1/16step) /sec
Min. step rate	16 (1/16 step) /30 sec		
Working mode	Infusion		
Linear force	> 9kgf		
Accuracy	$\leq \pm 0.5\%$ error in the condition of > 30% of max. infusion distance		
Operating mode	Rotary encoded switch and membrane keypad		
Display	128 x 64 graphic LCD		
Power	AC 100 - 240 V		
Operating condition	Temperature 5 °C - 40 °C Relative humidity < 80 %		
Dimensions	280×210×140 (mm)		280×250×140 (mm)
Weight	3.6 kg		4.5kg

Syringe Pump	Syringe	I.D. (mm)	Flow Rates (μ L/min - mL/min)	Linear Rate	Part Number
LSP01 - 1A	50 μ L	1.03	0.004 - 0.054	5 μ m/min - 65mm/min	0503401
	10mL	14.57	0.834 - 10.837		
	60mL	32.57	4.166 - 54.155		
LSP01 - 2A	50 μ L	1.03	0.001 - 0.011	1 μ m/min - 13mm/min	0503411
	10mL	14.57	0.167 - 2.167		
	60mL	32.57	0.833 - 10.831		
LSP04 - 1A	50 μ L	1.03	0.004 - 0.108	5 μ m/min - 130mm/min	0503451
	1mL	4.61	0.083 - 2.170		
	10mL	14.57	0.834 - 21.675		

Note: Flow rates = Linear rate \times Section area of the barrel

LSP02/10-1B Syringe Pump

These pumps are multi-channel syringe pump which have infusion/withdrawal mode. The acceptable syringes for LSP02-1B are from 10 μ L to 140mL and the acceptable syringes for LSP10-1B are from 10 μ L to 10mL. Suitable for high accuracy and small flow rates liquid transferring.

Functions and Features

Syringe selection: The syringe can be selected in the manufacturer table which includes manufacturer, material and size or input the inner diameter of the syringe barrel directly

Easy to operate: Combining big screen LCD display with rotary encoded swith and membrane keypad makes the operation simple and prompt.

Working mode: Infusion, withdrawal, infusion/withdrawal, withdrawal/infusion, continuous

Memory function:

1. The parameters are saved in EEPROM. The parameters don't need to be reset when power returns after an interruption.
2. In flow rates mode, the pump remains running or stop according to the setting parameters when power returns after an interruption.

Protection function: The pump will stall and give an alarm when the drive structure of the pump is blocked

Communication function: Realize computer control through RS485 communication interface

External control function: Input/output control

Calibration function: Acquire accurate volume through calibration

Syringe protection: Adjust syringe rest to prevent syringe from damaging



Specifications Comparison Table

Syringe Pump	LSP02 - 1B	LSP10 - 1B
Max. No. of syringes	2	10
Infusion volume per microstep	0.13 μ L (60 mL BD Syringe)	0.0257 μ L (10mL BD Syringe)
Syringe size	10 μ L - 140mL	10 μ L - 10mL
Flow rates	0.831nL/min - 150.5mL/min	0.831nL/min - 21.675mL/min
Advance per microstep	1/16step: 0.156 μ m	
Max. step rate	13867 (1/16step) /sec	
Min. step rate	16 (1/16 step) /30sec	
Max. linear rate	130mm/min	
Min. linear rate	5 μ m/min	
Working mode	Infusion, withdrawal, infusion/withdrawal, withdrawal/infusion, continuous	
Linear force	>18kgf	
Accuracy	$\leq \pm 0.5\%$ error in the condition of >30% of max. infusion distance	
Operating mode	Rotary encoded switch and membrane keypad	
Display	128 \times 64 graphic LCD	
Power	AC 100 - 240 V	
Operating condition	Temperature 5 $^{\circ}$ C-40 $^{\circ}$ C Relative humidity: < 80%	
Dimensions	280 \times 250 \times 140 (mm)	280 \times 330 \times 140 (mm)
Weight	4.3 kg	5.3 kg

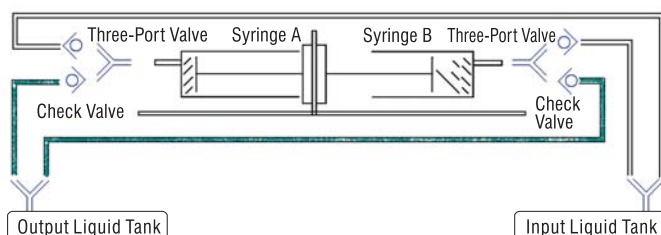
Syringe	I.D. (mm)	LSP02 - 1B			LSP10 - 1B		
		Ref. Flow Rates (μ L/min - mL/min)	Linear Rate (μ m/min - mm/min)	Part Number	Flow Rates (μ L/min - mL/min)	Linear Rate (μ m/min - mm/min)	Part Number
50 μ L	1.03	0.004 - 0.108	5 - 130	0503441	0.004 - 0.108	5-130	0503461
1mL	4.61	0.083 - 2.170			0.083 - 2.170		
2.5mL	7.28	0.208 - 5.411			0.208 - 5.411		
5mL	10.30	0.417 - 10.832			0.417 - 10.832		
10mL	14.57	0.834 - 21.675			0.834 - 21.675		
25mL	23.03	2.083 - 54.153					
50mL	28.9	3.28 - 85.28					
60mL	32.57	4.166 - 108.310					

Note: Flow rates=Linear rate \times Section area of the barrel

LSP01-1C Syringe Pump



Tubing Connection Illustration



This pump is a two-syringe push-pull syringe pump. The acceptable syringes are from 10 μ L to 10mL. Suitable for high accuracy and small flow rate liquid continuously transferring.

Specifications

Syringe size	10 μ L - 10mL
Linear force	9kg
Advance per microstep	0.156 μ m (1/16step)
Infusion volume per Microstep	0.026 μ L (10mL syring 1/16step)
Max. step rate	6933 (1/16step)/sec
Min. step rate	16 (1/16step)/30sec
Max. linear rate	65mm/min
Min. linear rate	5 μ m/min
Flow rates	0.831nL/min - 10.84mL/min
Accuracy	$\leq \pm 0.5\%$ error in the condition of $\geq 30\%$ of max. Infusion distance
Operating mode	Rotary coded switch and membrane keypad
Display	128 \times 64 graphic LCD
Power	AC100-240V
Operating condition	Temperature 5 $^{\circ}$ C - 40 $^{\circ}$ C Relative humidity <80%
Dimensions	280 \times 220 \times 140 (mm) (L \times W \times H)
Weight	3.6kg

Functions and Features

Syringe selection: The syringe can be selected in the manufacturer table which includes manufacturer, material and size or input the inner diameter of the syringe barrel directly

Easy to operate: Combining big screen LCD display with rotary encoder switch and membrane keypad makes the operation simple and prompt

Working mode: Push-pull

Memory function:

1. The parameters are saved in EEPROM. The parameters don't need to be reset when power returns after an interruption
2. In flow rate mode, the pump remains running or stop according to the setting parameters when power returns after an interruption

Protection function: The pump will stall and give an alarm when the drive structure of the pump is blocked

Communication function: Realize computer control through RS485 communication interface

External control function: Input/output control

Calibration function: Acquire accurate volume through calibration

Syringe protection: Adjust syringe rest to prevent syringe from damaging

Syringe Pump	Part Number	Syringe	Inner Diameter (mm)	Flow Rates	Linear Rate	Weight (kg)
LSP01 - 1C	0503421	10 μ L	0.46	0.049 μ L/hr - 10.80 μ L/min	5 μ m/min - 65mm/min	3.6
		1mL	4.61	5.007 μ L/hr - 1085 μ L/min		
		2.5mL	7.28	12.49 μ L/hr - 2706 μ L/min		
		5mL	10.30	25.00 μ L/hr - 5416 μ L/min		
		10mL	14.57	50.02 μ L/hr - 10837 μ L/min		

Note: Flow rates=Linear rate \times Section area of the barrel

LSP01-1BH Syringe Pump



This pump is a single channel high pressure syringe pump. The acceptable syringes are 2.5mL-100mL stainless steel syringes. Because of the extra linear force this pump is suitable for transferring viscous fluids or delivering the fluid to reactors in chemical applications.

Functions and Features

Syringe selection: The syringes can be selected in the manufacturer table which includes manufacturer, material and size or input the inner diameter of the syringe barrel directly

Easy to operate: Combining big screen LCD display with rotary encoder switch and membrane keypad makes the operation simple and prompt.

Working mode: Infusion, withdrawal, infusion/withdrawal, withdrawal/infusion, continuous

Memory function:

1. The parameters are saved in EEPROM . The parameters don't need to be reset when power returns after an interruption
2. In flow rate mode, the pump remains running or stop according to the setting parameters when power returns after an interruption

Protection function: The pump will stall and give an alarm when the drive structure of the pump is blocked

Communication function: Realize computer control through RS485 communication interface

External control function: Input/output control

Calibration function: Acquire accurate volume through calibration

Syringe protection: Adjust syringe rest to prevent syringe from damaging

Specifications

Syringe size	2.5 - 100 (mL)
Linear force	45kgf
Advance per microstep	0.156μm (1/16step)
Infusion volume per microstep	0.149μL (100mL syringe 1/16step)
Max. Step rate	13867 (1/16step)/sec
Min. step rate	16 (1/16step)/30sec
Max. linear rate	130mm/min
Min. Linear rate	5μm/min
Flow rates	0.09μL/min - 124.36mL/min
Accuracy	≤ ±0.5% error in the condition of ≥30% of max. Infusion distance
Operating mode	Rotary coded switch and membrane keypad
Display	128×64 graphic LCD
Power	AC100 - 240V
Operating condition	Temperature 5°C - 40°C Relative humidity <80%
Dimensions	280×250×140 (mm) (L×W×H)
Weight	6.3kg

Syringe Pump	Part Number	Inner Diameter (mm)	Syringe (mL)	Flow Rates	Outlet Pressure	Linear Rate	Weight (kg)
LSP01 - 1BH	0503431	4.79	2.5	5.406μL/hr - 140.5mL/hr	>19.48MPa	5μm/min - 130mm/min	6.3
		9.53	8	21.399μL/hr - 556.3mL/hr	>5.05MPa		
		19.13	20	86.226μL/hr - 2241.8mL/hr	>1.25MPa		
		28.6	50	192.727μL/hr - 5010.9mL/hr	>0.56MPa		
		34.9	100	286.986μL/hr - 7461.6mL/hr	>0.37MPa		

Note: Flow rates=Linear rate×Section area of the barrel

MSP1-C1 Industry Syringe Pump

SYRINGE PUMP



MSP1-C1 industry precise syringe pump which has been independently developed and manufactured by our company has compact size, high performance and stability. It is ideal for industry automatization, and its micro-processor of drive unit can be accurately controlled by computer to realize complicated and comprehensive operation. The programmable feature and save function make it widely used in high automatic field. MSP1-C1 can easily realize accurate and precise liquid delivering, diluting and dispensing with broad speed range and various syringes. Its valve, syringe and tube connector adopt high performance material with excellent chemical property that increases the application Range of MSP1-C1.

Appellation	Precise glass syringes	Valves	External control Interface
Illustration			
Features	<ul style="list-style-type: none"> ▪ Working principle: Microprocessor controlled step motor driving a ball screw With rotary encoder and home flag. ▪ Rated stroke: 30 mm corresponding to 3000 steps. ▪ Speed: 25 μm/s - 25 mm/s. The full stroke will be finished in 20 minutes at the lowest speed and in 1.2 second at the fastest speed. ▪ Resolution: one step or 0.01 mm ▪ Precision: ≤ ±0.5‰ CV (constant volume) in the condition of ≥30% full stroke; ≤ ±1‰ CV (constant volume) in the condition of < 30% full stroke ▪ Plunger drive force: Full drive force ≥13 kg ▪ Secondary drive force: ≥7 kg ▪ Minimum drive force: ≥3 kg ▪ Syringe specification: 50μl, 100μl, 250μl, 500μl, 1 ml, 2.5 ml, 5 ml 	<ul style="list-style-type: none"> ▪ Valve positions: 120° 3-port, 90° 4-port, 3-port Distribution, T-Valve ▪ Turn time: ≤280 ms for adjacent ports ▪ Valve drive: Step motor with optical encoder for positioning feedback ▪ Valve materials: Body: PCTFE Plug: Teflon ▪ Valve fitting: 1/4-28 tubing and syringe Fittings; M 6 tubing fittings 	<ul style="list-style-type: none"> ▪ Communication interface: RS 485 or RS 232; baud rate: 1200 bps or 9600 bps ▪ External input interface: 2 TTL level inputs with insulating function for controlling the start when machine is in pausing state ▪ External output interface: 3 TTL level outputs with insulating function. ▪ ID setting interface: setting pump address through pump address switch ▪ Parameters selection switch: reserve 6 external jumpers to select parameters (baud rate selection, RS485 Communication interface A and B Strobe).

Syringe Pump	Part Number	Power	Operating Temperature	Current	Relative Humidity	Dimensions (mm)	Weight (kg)
MSP1-C1	0503201	24VDC	10-40°C	≤1.5A	20-95% in 40°C	110×44.4×127	1.23

MSP1-D1 Industry Syringe Pump



MSP1-D1 is the sister product of MSP1-C1. It broadens the product line of our industry syringe pump. MSP1-D1 has lower accuracy than MSP1-C1, but the mechanical structure of MSP1-D1 is simple and the price is lower to make it widely accepted by the customer. MSP1-D1 can be controlled by computer. It can also run automatically according to pre-saved commands. It is ideal for high automatic field. The materials of the syringe, valve and tube connector are the same with MSP1-C1 and have excellent chemical property.

Appellation	Precise glass syringes	Valves	External control Interface
Illustration			
Features	<ul style="list-style-type: none"> ▪ Working principle: Microprocessor controlled step motor driving gear and rack with rotary encoder and home flag. ▪ Rated stroke: 30 mm corresponding to 1000 steps ▪ Speed: 0.5 mm/s - 15 mm/s. The full stroke will be finished in 1 minute at the lowest speed and in 2 second at the fastest speed. ▪ Resolution: one step or 0.03 mm ▪ Precision: $\leq \pm 0.5\%$ CV (constant volume) in the condition of 30% full stroke; $\leq \pm 1\%$ CV (constant volume) in the condition of <30% full stroke ▪ Plunger drive force: Full drive force 8 Kg ▪ Syringe specification: 500μL, 1mL, 2.5mL, 5mL 	<ul style="list-style-type: none"> ▪ Valve positions: 120° 3-port ▪ Turn time: ≤ 280 ms for adjacent ports. ▪ Valve drive: Step motor with optical encoder for positioning feedback ▪ Valve materials: Body: PCTFE Plug: Teflon ▪ Valve fitting: 1/4-28 tubing and syringe Fittings; M 6 tubing fittings 	<ul style="list-style-type: none"> ▪ Communication interface: RS 485 or RS 232; baud rate: 1200 bps or 9600 bps ▪ External input interface: 2 TTL level inputs with insulating function for controlling the start when machine is in pausing state ▪ External output interface: 3 TTL level outputs with insulating function. ▪ ID setting interface: setting pump address through pump address switch ▪ Parameters selection switch: reserve 6 external jumpers to select parameters (baud rate selection, RS485 Communication interface A and B Strobe).

Syringe Pump	Part Number	Power	Operating Temperature	Current	Relative Humidity	Dimensions (mm)	Weight (kg)
MSP1-D1	0503211	24VDC	10-40°C	≤ 1.5 A	20-95% in 40°C	100×65×127	0.9

SP1-C1 Industry Syringe Pump

SYRINGE PUMP



SP1-C1 is independently developed by Longer company which featured high performance, high reliability, it is one kind of precise syringe pump and suitable for industrial automation. It can be precisely controlled through computer to realize complicate and comprehensive operation. Its programmable and memory functions greatly improve its degree of automation, make it very suitable for automation industry. SP1-C1 has a wide linear speed, and can be installed different syringes. Its valve, syringe and tube connector adopt high performance material with excellent chemical property that increases the application range of SP1-C1.

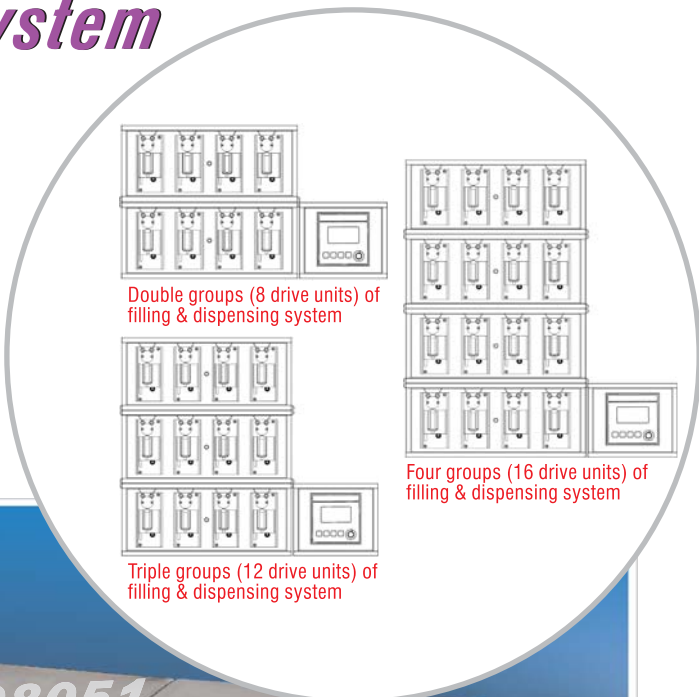
Appellation	Precise glass syringes	Valves	External control Interface
Illustration			 External interface Pump address switch Parameters selections switch
Features	<ul style="list-style-type: none"> ▪ Working principle: Microprocessor controlled step motor driving a ball screw with rotary encoder. ▪ Rated stroke: 60mm corresponding to 6000 steps. ▪ Speed: 50μm/s to 50mm/s. ▪ Resolution: one step or 0.01mm. ▪ Precision: $\leq \pm 0.5\%$ CV (constant volume) in the condition of $\geq 30\%$ full stroke; $\leq \pm 1\%$ CV (constant volume) in the condition of $<30\%$ of full stroke. ▪ Plunger drive force: Full drive force ≥ 6.8kgf, second drive force (max. speed) ≥ 3.4kgf. ▪ Syringe type: 50μl, 100μl, 250μl, 1mL, 2.5ml, 5ml, 10ml, 25ml. 	<ul style="list-style-type: none"> ▪ Valve type: 3-port valve at 120° ▪ Turn time: ≤ 280 ms for adjacent ports. ▪ Valve drive: Step motor with optical encoder for positioning feedback. ▪ Valve material: Valve body-PCTFE; valve plug-teflon. ▪ Valve fitting: 1/4-28 tubing and syringe fitting. 	<ul style="list-style-type: none"> ▪ Communication interface: RS485 or RS232; baud rate: 1200 bps or 9600 bps. ▪ External input interface: 2 TTL level inputs with insulating functions for controlling the start when machine is in pausing state. ▪ External output interface: 3 TTL output with insulating function. ▪ ID setting interface: setting pump address through pump address switch. ▪ Parameters selection switch: reserve 6 external jumpers to select parameters (baud rate selection, RS485 communication interface A and B strobe)

Syringe Pump	Part Number	Power	Operating Temperature	Current	Relative Humidity	Dimensions (mm)	Weight (kg)
SP1-C1	0503251	24VDC	10-40°C	≤ 1.5 A	20-95% in 40°C	114×65×254	2.15

Dispensing & Filling System

HMD04-1

HMD 04-1 filling & dispensing system is one kind of syringe pump automatic control system specially designed by Longer company for dispensing small volume. It consists of four pieces of industrial syringe pumps and one controller. It can be installed in dispensing machine to dispense accurate small volume. This system can be stackable up to 16 channels according to customer's requirement.



Dispensing & Filling System

Functions and Features

- HMD04-1 adopts high precision industrial syringe pump to make it suitable to dispense accurate small volume.
- Multi-channels.
- Copy number and time interval can be set, each channel can be individually controlled.
- Use button to set internal/external control mode.
- Stopping signal can be accepted to stop the dispensing process when bottles are not in right position.
- Big LCD displays, friendly man-machine interface.
- Pre-treatment, back suction and flush functions.
- Memory function: Save the parameters and working status automatically.
- Housing is made of stainless steel which is easy to clean.

Specification

Suitable syringes:	500μl, 1mL, 2.5mL, 5mL
Display:	128×32 LCD displays all the running information and parameters.
Channels quantity and expansion:	Four channel in one system and can expand to four systems.
Dispensing volume range:	100μL - 5mL
Dispensing volume accuracy:	≤ ±2.0%
Dispensing speed:	S20 - S600 (15mm/s 0.5mm/s)
Power supply:	AC85V - 265V, 50/60Hz
Operating condition:	Temperature 15 - 40 °C, relative humidity <90%.
System dimension:	600×256×170 mm (L×W×H)
System weight:	10kg

Drive	Part Number	Syringe	Dispensing Volume	Accuracy	Weight (kg)
HMD04-1	0508051	500μL	100μL-500μL	≤ ±2.0%	10
		1mL	200μL-1mL		
		2.5mL	500μL-2.5mL		
		5mL	1mL-5mL		

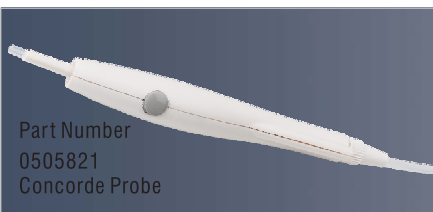
SMD02-1 Diluters & Dispensers System

SMD02-1

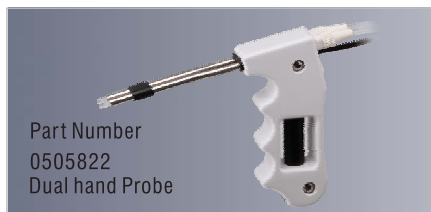


SMD02-1 Dispenser & Dilutor handles liquid sample precisely. It consists of software, two pieces control units and probe. It has functions of semi-automatically dispensing and diluting. SMD02-1 features accurate control, easy and reliable operation to match the requirements to prepare liquid sample for analytical laboratory. SMD02-1 completely replaces the traditional manual operation of dispensing and diluting and widely used in blood analysis, emulsion analysis, chemical analysis, food analysis, urine analysis.

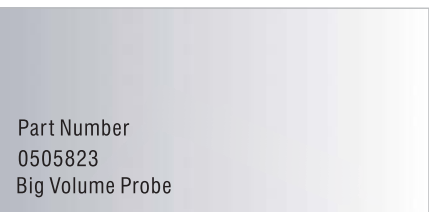
Accessories



Part Number
0505821
Concorde Probe



Part Number
0505822
Dual hand Probe



Part Number
0505823
Big Volume Probe

Functions and Features

- Precisely handling liquid: Precision $\leq 0.5\%$, accuracy $> 99\%$ which avoid the artificial error between different operators.
- Small Volume Dilution: Lower the consumption of reagent and sample namely reduces experiment cost. For example, preparation of the solution diluted 100 times, it will need solvent 99 ml and sample 1 ml if use measuring jug and pipette. It only need 1 ml solvent if use SMD02-1 Diluter & Dispenser System.
- Simplify dilution process: Dilution process does not measuring jug, pipette, etc. it only need hand probe to dilute solvent, which will save time.
- Multi dispense mode: Realize aliquot, serial, samples, pipettes dispense functions.
- Multi dilution mode: Realize simple dilution, serial (tube to tube) dilution, serial (programmed) dilution, multi-sample/reagent dilution functions.
- Easy to adjust dilution ratio.
- Humanized operation interface.
- Communication: Bluetooth wireless communication and RS232 communication.

Work Modes

Dispensing mode:

1. Withdraw liquid to syringe according to programmed speed and volume.
2. Dispense liquid from syringe according to programmed speed and volume.

Diluting mode:

1. Withdrawing liquid from solvent bottle according to programmed parameters.
2. Withdraw liquid from sample bottle to probe.
3. Dispense sample and solvent to bottle.

User define mode:

According to customer actual need, there are four operation modes for each syringe (inlet withdrawing, inlet dispensing, outlet withdrawing, outlet dispensing) to complete complicate work.

SMD01-1 Diluters & Dispensers System

SMD01-1 Dispenser & Dilutor handles liquid sample precisely. It consists of software, one pieces control units and probe. It has functions of semi-automatically dispensing and diluting. SMD01-1 features accurate control, easy and reliable operation to match the requirements to prepare liquid sample for analytical laboratory. SMD01-1 completely replaces the traditional manual operation of dispensing and diluting and widely used in blood analysis, emulsion analysis, chemical analysis, food analysis, urine analysis.

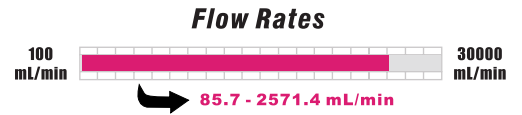


Technical Specifications

Type	SMD02-1		SMD01-1
Specifications	Acceptable syringe	50 μ L - 25mL	Same SMD02-1
	Liquid volume	1 μ L - 25mL	
	Precision	\geq 0.5% in the stroke of 30% - 100%	
	Accuracy	\geq 99%	
	Control resolution	0.017% of syringe capacity	
	Min. volume increment	0.017% of syringe capacity	
	Flow rates	2.5 μ L/min to 1250ml/min	
	Communication	Bluetooth or RS232, Bluetooth wireless communication max. distance is 100 meters	
	Dimension (L×W×H)	21.6×19.5×30.2 (cm)	
	Storage temperature	20°C - 65°C	
	Operating temperature	15°C - 40°C	
	Power supply	AC90 - 260V, 50/60Hz	
	Humidity	10%-90%, (non-condensing)	
	Pipeline	PTFE tubing and borosilicate glass	
	Power consumption	<72W	
	Control unit	2	1
Max. Dilution proportion	1:25000	1:50	
Weight	5.5kg	3.5kg	

WT3000-1JA Micro Gear Pump

WT3000-1FA



Applicable Pump Heads

- MG204
- MG209
- MG213



Instruction

WT3000-1FA micro gear pump has two work modes of flow mode and dispensing mode. It delivers flow rates from 85.7 to 2571.4 ml/min and dispensing volume is from 0.1 mL to 999L. 128 × 32 LCD displays the parameters and information. The compact and precise gear pump heads are noiseless, pulsation-free and suitable to transfer high temperature and high pressure fluids.

WT3000-1JA can install variable pump head to provide flow rates from 85.7 to 2571.4 ml/min, it adopts brushless DC motor and has features of high efficiency and free maintenance.

Specifications

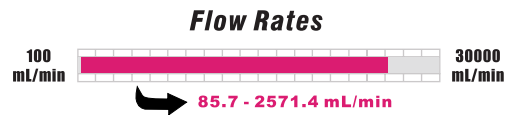
Specifications	WT3000-1FA	WT3000-1JA
Flow rates	85.7-2571.4 (mL/min)	
Speed	300-3000 (rpm)	
Speed accuracy	± 1.0%	
Speed resolution	1.0 rpm	
Dispensing volume	0.1mL to 999L	No dispensing function
Copy number	0-9999, 0 means unlimited cycle	
Pause time	1second to 999 hours, resolution is 0.1s	
Calibration time	30 to 1800 second, resolution is 1s	
Communication interface	RS485	
Diameter of particle in liquid	≤ 10μm	
Max. Outlet pressure (Testing medium is water)	MG204 : 0.8MPa	
	MG209 : 0.8MPa	
	MG213 : 0.3MPa	
Liquid temperature	-45 to 50°C with PTFE gear, -45 to 120°C with PEEK gear	
Viscosity of liquid	≤ 200 cSt	
Power supply	AC 176-264V/90-130V, 50/60 Hz	
Power consumption	≤ 50W	
Operating condition	Temperature 0 to 40°C	
	Relative humidity < 90% (non-condensing)	
Drive dimensions	232×142×149(mm) (L×W×H)	
Weight	2.83 kg	
IP rating	IP31	

Functions and Features

- Acceptable pump head: MG204, MG209, MG213
- Suitable to transfer high temperature fluids or high pressured fluids.
- Prime function for fast filling and emptying
- Flow rates and dispensing volume can be calibrated for higher accuracy (WT3000-1FA)
- Display: 128 × 32 LCD display all the running parameters (WT3000-1FA)
- External control input functions: Control the flow rates and start/stop of the pump
- External control output functions: Output start/stop and speed signal (WT3000-1FA)
- Dispensing function: Dispensing volume, copy number and pause time can be set (WT3000-1FA)
- Footswitch: Control the start/stop of the pump
- Communication function: Realize computer control through RS485 interface
- Memory function: Store the running parameters automatically
- Cooling code: Heat-emitting fan
- Decoupling will occur when the pump load exceeds the maximum coupling torque provided by the alignment of the two magnets

Drive	Part Number	Pump Head	Speed (rpm)	Flow Rates (mL/min)	Weight (kg)
WT3000-1JA	0502701	MG204	300-3000	85.7-857.1	3.25
WT3000-1FA	0502711	MG209		171.4-1714.3	3.26
		MG213		257.1-2571.4	3.28

WT3000-1JB Micro Gear Pump WT3000-1FB



Applicable Pump Heads



GEAR PUMP

Instruction

WT3000-1FB gear pump has two work modes of flow mode and dispensing mode. It delivers flow rates from 85.7 to 2571.4 ml/min and dispensing volume is from 0.1 mL to 999L. 128 × 32 LCD displays the parameters and information. The compact and precise gear pump heads are noiseless, pulsation-free and suitable to transfer high temperature and high pressure fluids.

WT3000-1JB can install variable pump head to provide flow rates from 85.7 to 2571.4 ml/min, it adopts brushless DC motor and has features of high efficiency and free maintenance.

Specifications

Specifications	WT3000-1FB	WT3000-1JB
Flow rates	85.7-2571.4 (mL/min)	
Speed	300-3000 (rpm)	
Speed accuracy	±1.0%	
Speed resolution	1.0 rpm	
Dispensing volume	0.1mL to 999L	No dispensing function
Copy number	0-9999, 0 means unlimited cycle	
Pause time	1second to 999 hours, resolution is 0.1s	
Calibration time	30 to 1800 second, resolution is 1s	
Communication interface	RS485	
Diameter of particle in liquid	≤10μm	
Max. Outlet pressure (Testing medium is water)	MS204 : 1.4MPa MS209 : 0.9MPa MS213 : 0.8MPa	
Liquid temperature	-45 to 50°C with PTFE gear, -45 to 120°C with PEEK gear	
Viscosity of liquid	≤200 cSt	
Power supply	AC 220V/110V ±20%, 50 Hz/60 Hz	
Power consumption	≤150W	
Operating condition	Temperature 0 to 40°C Relative humidity <90% (non-condensing)	
Drive dimensions	290×207×180(mm) (L×W×H)	
Weight	5.1 kg	
IP rating	IP31	

Functions and Features

- Acceptable pump head: MS204, MS209, MS213
- Suitable to transfer high temperature fluids or high pressured fluids.
- Prime function for fast filling and emptying
- Flow rates and dispensing volume can be calibrated for higher accuracy (WT3000-1FB)
- Display: 128 × 32 LCD display all the running parameters (WT3000-1FB)
- External control input functions: Control the flow rates and start/stop of the pump
- External control output functions: Output start/stop and speed signal (WT3000-1FB)
- Dispensing function: Dispensing volume, copy number and pause time can be set (WT3000-1FB)
- Footswitch: Control the start/stop of the pump
- Communication function: Realize computer control through RS485 interface
- Memory function: Store the running parameters automatically
- Cooling code: Heat-emitting fan
- Decoupling will occur when the pump load exceeds the maximum coupling torque provided by the alignment of the two magnets

Drive	Part Number	Pump Head	Speed (rpm)	Flow Rates (mL/min)	Weight (kg)
WT3000 - 1JB	0502702	MS204	300 - 3000	85.7 - 857.1	5.39
WT3000 - 1FB	0502712	MS209		171.4 - 1714.3	5.40
		MS213		257.1 - 2571.4	5.42