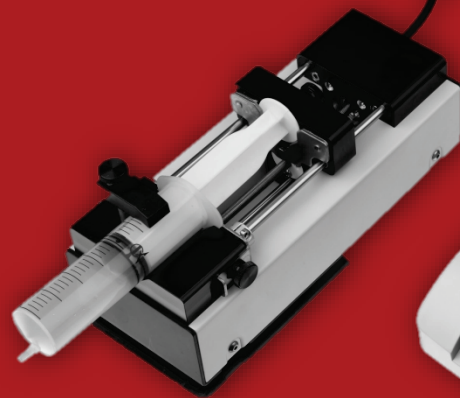


# micrux

TECHNOLOGIES

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Pumping Systems  
-.- LP series -.-



Different **pumping systems** are available for the use of **microfluidic** and **electrochemical solutions** offered by **MicruX** or any other supplier.

## » Multi-channel Peristaltic Tube Pump

**Peristaltic pumps** offer a *low cost* solution with an *excellent performance* for most **lab applications** with flow systems.



*For lab applications*

» <b>Speed:</b>	0.1 to 100 rpm, reversible
» <b>Speed precision:</b>	0.1 rpm
» <b>Control mode:</b>	Membrane keypad (start/stop, direction and speed). External control (signal and communication control) is available
» <b>Display:</b>	3-digit LED display for current speed. 3 LED indicators for operating state
» <b>Power-off memory:</b>	Return to previous state when power on
» <b>Prime key:</b>	Fast filling and emptying at full speed
» <b>Power supply:</b>	AC 90V-260V / 30W
» <b>Operating temperature:</b>	0 to 40 °C
» <b>Relative humidity:</b>	< 80%
» <b>Dimensions (D X W X H):</b>	232 x 142 x 149 mm
» <b>Weight (without head):</b>	2.3 Kg

**Pump heads** are designed for micro-flow rates and 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.

Reference	Pump head		Tubing	Max. pressure	Flow rate
	# Rollers (material)	# Channels			
» LP-BT100-2J / DG-2(10)	10	2	ID < 3.17 mm	15 psi	0.002 – 30
» LP-BT100-2J / DG-4(10)	(stainless steel)	4	Wall thickness 0.8-1 mm	(1bar)	mL/min

*Other options (with different channels, pressure, flow rate...) are available on demand depending on the specific requirements.*

*Peristaltic pumps provided by MicruX are commercialized by Baoding Longer Precision Pump Co, Ltd (part of Halma PLC).  
[www.longerpump.com](http://www.longerpump.com)*

# Syringe Pumps



Different **pumping systems** are available for the use of **microfluidic** and **electrochemical solutions** offered by **MicruX** or any other supplier.

## » Single & Dual-channel Syringe Pumps

Syringe pumps offer a suitable solution for high accuracy and small flow rate liquid transferring.

### » LP Single-channel Syringe Pumps (just infusion)

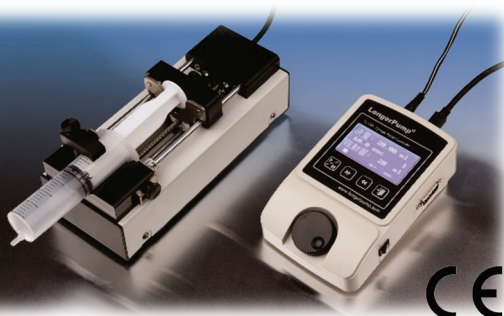
» LSP01-3A



**LSP01-3A** is a single-channel syringe pump which only have infusion mode. These pumps are very easy to operate including a LCD display with rotary coded switch and a simple membrane keypad.

### » LP Single-channel Syringe Pump (infusion / withdrawal)

» TJ-3A / W0109-1B



**TJ-3A / W0109-1B** is a single-channel syringe pump with infusion / withdrawal mode. The controller (TJ-3A) and drive unit (W0109-1B) are separated. It combines precision, compact size and multiple functions with ease of operation. Moreover, other controller (T5-1B-B) is also available for managing up to four drive units.

### » LP Dual-channel Syringe Pump (infusion / withdrawal)

» LSP02-2B



**LSP02-2B** is a multi-channel syringe pump with infusion/ withdrawal mode. This pump is very easy to operate including a LCD display with rotary coded switch and a simple membrane keypad.

# Syringe Pumps



Different **pumping systems** are available for the use of **microfluidic** and **electrochemical solutions** offered by **MicruX** or any other supplier.

## » Single & Dual-channel Syringe Pumps

### » Syringe pump specifications

	LSP01-3A	TJ-3A / W0109-1B	LSP02-2B
» Working Mode:	Infusion	Infusion, withdrawal, infusion/withdrawal, withdrawal/infusion, continuous	
» Channels:	1		2
» Pump stroke:	140 mm	90 mm	140 mm
» Advance per microstep:	0.156 $\mu$ m	0.165 $\mu$ m	0.156 $\mu$ m
» Max. linear rate:	65 mm/min	79.4 mm/min	130 mm/min
» Min. linear rate:	5 $\mu$ m/min	7.94 $\mu$ m/min	5 $\mu$ m/min
» Linear force:	> 90 N		> 180 N
» Accuracy:	$\leq \pm 0.5\%$ error in the condition of > 30% of max. infusion distance		
» Flow rate:	0.831 nL/min – 54.2 mL/min	0.139 $\mu$ L/min – 52.9 mL/min	0.831 nL/min – 150.5 mL/min
» Syringe size:	10 $\mu$ L – 60 mL	1 – 60 mL	10 $\mu$ L – 140 mL
» Display setting:	Display volume, flow rate or linear speed (128x64 graphic LCD)		
» Power-off memory:	Storing the running parameters automatically		
» State signal output:	2 output signals (OC gate signal) to indicate start/stop and direction		
» Control signal input:	Falling edge or TLL signal to control start/stop		
» Communication interface:	RS485		
» Power supply:	AC 196V-240V / 20W	AC 100V-240V / 10W	AC 196V-240V / 40W
» Operating temperature:	0 to 40 °C		
» Relative humidity:	< 80%		
» Dimensions (D X W X H):	280 x 210 x 140 mm	170 x 108 x 70 mm (controller) 245 x 100 x 95 mm (drive unit)	280 x 250 x 140 mm
» Weight:	3.6 Kg	0.8 Kg (controller) 1.3 Kg (drive unit)	4.3 Kg

*Other options (with different channels, precision, flow rate...) are available on demand depending on the specific requirements.*

*Note: Specifications subject to change without prior notice*

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[www.longerpump.com](http://www.longerpump.com)

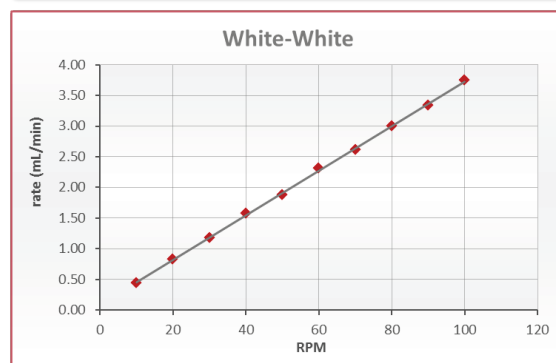
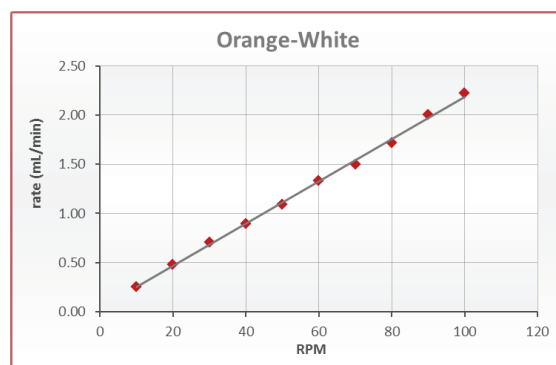


Different tubing and syringes are compatible with the pumping systems (peristaltic or syringe pumps).

## » Peristaltic Pump Tubing

3 bridge PVC pump tubing offers an inexpensive all-round tubing for general laboratory use, compatible with the peristaltic pump.

Color Code	Inner Diameter (mm)	Outer Diameter (mm)
» orange/black	0.127	2.007
» orange/red	0.191	2.032
» orange/blue	0.254	2.083
» orange/green	0.381	2.209
» orange/yellow	0.508	2.337
» orange/white	0.635	2.464
» black/black	0.762	2.438
» orange/orange	0.889	2.565
» white/white	1.016	2.692
» red/red	1.143	2.819
» grey/grey	1.295	2.972
» yellow/yellow	1.422	3.099
» yellow/blue	1.524	3.200
» blue/blue	1.651	3.327
» blue/green	1.750	3.430
» green/green	1.854	3.531
» purple/purple	2.057	3.734
» purple/black	2.286	3.962
» purple/orange	2.540	4.216
» purple/white	2.794	4.470
» black/white	3.175	4.851



Flow rate will depend on tubing selection

## » Syringes

Syringe	Syringe ID (mm)	LSP01-3A	TJ-3A / W0109-1B	LSP02-1B
		Flow rate (µL/min – mL/min)		
10 µL	0.50	0.001 - 0.0128	-	0.001 - 0.0255
25 µL	0.80	0.0025 - 0.0327	-	0.0025 - 0.0653
50 µL	1.10	0.0048 - 0.0618	-	0.0048 - 0.1235
100 µL	1.60	0.0101 - 0.1307	-	0.0101 - 0.2614
250 µL	2.30	0.0208 - 0.2701	-	0.0208 - 0.5401
500 µL	3.25	0.0415 - 0.5392	-	0.0415 - 1.0784
1 mL	4.72	0.0875 - 1.1373	0.139 - 1.39	0.0875 - 2.2747
2 mL	9.00	0.3181 - 4.1351	0.505 - 5.05	0.3181 - 8.2702
5 mL	13.10	0.6739 - 8.7608	1.07 - 10.7	0.6739 - 17.522
10 mL	16.60	1.0821 - 14.068	1.718 - 17.18	1.0821 - 28.135
20 mL	19.00	1.4176 - 18.429	2.251 - 22.51	1.4176 - 36.859
30 mL	23.00	2.0774 - 27.006	3.298 - 32.98	2.0774 - 54.012
60 mL	29.14	3.3346 - 43.349	5.295 - 52.95	3.3346 - 86.699

The selection of the syringe size will affect to the range of the flow rate.



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