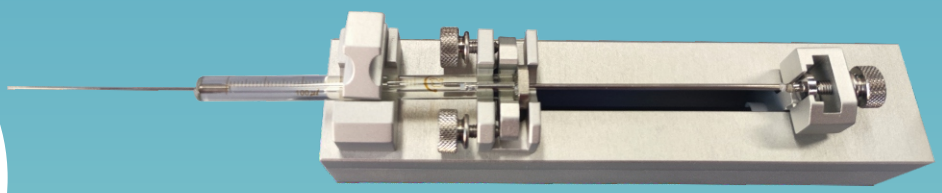
LONGER
A Halma company

dLSP 501S/ dLSP 501L
Digital Split-type Syringe Pump

- Remote pump drive unit with compact structure and small footprint, ideal for hand-held or clamping devices
- High precision and pulseless delivery, suitable for small liquid volume transfer and handling





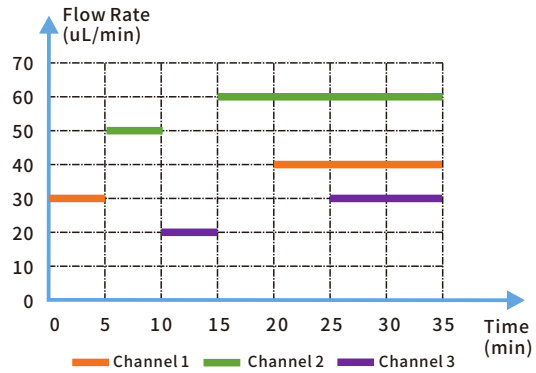


- 7 inch high-definition LCD touchscreen, easily constructs a multi-function system with up to 4 drive units, and each drive unit could have independent parameters



The 4-channel base provides a magnetic charging interface, easy for integrating multi-channel systems.

- Multiple work modes, including infusion only, withdrawal only, infusion/ withdrawal, withdrawal/ infusion, and programmable modes, for various applications.

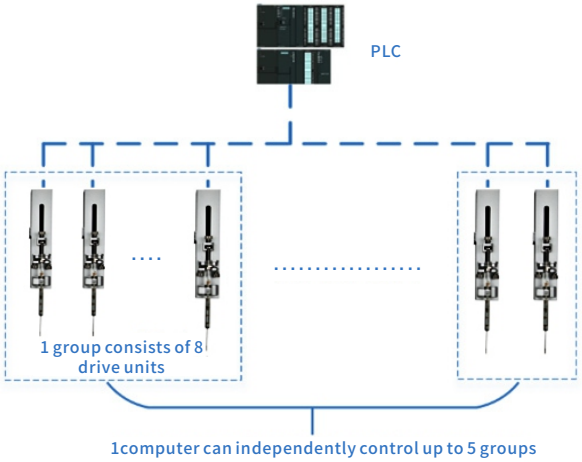


Parameters programming through dedicated PC software can achieve complex flow profiles for four drive units

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CE UK CA

- PLC or computer can control multiple drive units through RS485/ Modbus RTU. Each drive unit can be controlled independently with individual parameters.
- Parameters can be saved as a method, which can be stored on the controller and imported/exported to a USB flash drive, simplifying the parameter configuration and facilitating parameter sharing between different drive units.
- Powerful features, including the lock screen function, three-level access management with password protection, log recording, and electronic signatures, ensure the safety, accuracy, and compliance of operations.



Technical Spec

Product model	Drive unit	dLSP 501S	dLSP 501L
	Controller	dLSP uC	
Work mode		Infusion only, withdrawal only, infusion/withdrawal, withdrawal/infusion, programming (on PC software)	
Display		7 inch HD LCD	
Control mode	Touch screen controller	Control 1-4 separated drive units with preset parameters through touch screen controller	
	PLC/ Computer	RS485 communication interface, Modbus RTU, 1 group consists of up to 8 drive units, 1 computer can independently control up to 5 groups	
Stroke of the drive unit		70mm	
Pusher advance per microstep		0.095um/ustep	0.099um/ustep
Linear speed		0.6096um/min-182.88mm/min	0.635um/min-190.5mm/min
Linear travel accuracy		≤±0.35%（when travel≥30% of the stroke）	
Linear travel CV		0.03% (rated travel)	
Linear force (Rated)		15N (the force can be set 20%-100%)	30N (the force can be set 20%-100%)
Syringe		0.5uL-250uL	0.5uL-1000uL
Parameter method		Up to 100 parameter methods can be stored on the controller and can be imported/exported to USB flash drive	
Programming function		Parameter configured based on work flow on PC software: infusion, withdrawal, delay, repeat, up to 16 steps	
User access control		Three levels of user access (administrator, developer, operator), each user can have an exclusive password	
Log record		Record the pump operation history, and can be exported to a USB flash drive	
Electronic signature		FDA 21 CFR Part 11 compliance	
Controller dimensions (L X W X H)		187 mm*123 mm*39 mm	
Controller weight		0.6kg	
Drive unit dimensions (L X W X H)		170mm*35mm*58mm	180mm*45mm*74mm
Drive unit weight		0.31kg	0.51kg
Power Supply		AC 90V-260V/10W	

Flow rate for reference

Product model		dLSP 501S	dLSP 501L
Syringe (uL)	Syringe ID(mm)	Flow rate for reference	
0.5	0.10	0.0048nL/min-1.435uL/min	0.0050nL/min-1.495uL/min
10	0.50	0.1196nL/min-35.890uL/min	0.1246nL/min-37.386uL/min
100	1.46	1.0200nL/min-306.014uL/min	1.0625nL/min-318.765uL/min
250	2.30	2.5315nL/min-759.437uL/min	2.6369nL/min-791.080uL/min
1000	4.61	-	10.5936nL/min-3178.092uL/min

Extensive Applications:

Electrospinning，Microfluidics/Microfluidic Chips，Animal experiment，Toxicology Studies，Capillary Electrophoresis，Drug Discovery，Cell Injections，Microcapsule，Catalyzer，Neuroscience，Organic Synthesis，Nutrition science，Coating

Longer Precision Pump Co., Ltd.

3rd/4th Floor, Building 6B, University Science Park
Baoding National, High - Tech Industrial Development
Zone Baoding, Hebei, China 071051