

Benefits

- Remote pump head – eliminates dead volume
- Smooth and accurate flow delivery
- Constant and variable flow rates
- User selectable volume delivery
- High precision fluid dosing

Features

- Accuracy $\pm 0.5\%$
- Holds one syringe from 0.5 μl to 1000 μl
- High resolution color touch screen
- 2 programs 50 steps each
- Unparallel ease of use
- Password protection for program configuration
- Run LED light on front panel
- Full metal chassis
- Built in syringe table
- 11 lbs (5 kg) linear force
- Built in RS485 interface to link multiple pumps
- USB interface
- Footswitch interface
- Protection with spill dam
- CE, UL, CSA, CB Scheme, EU RoHS

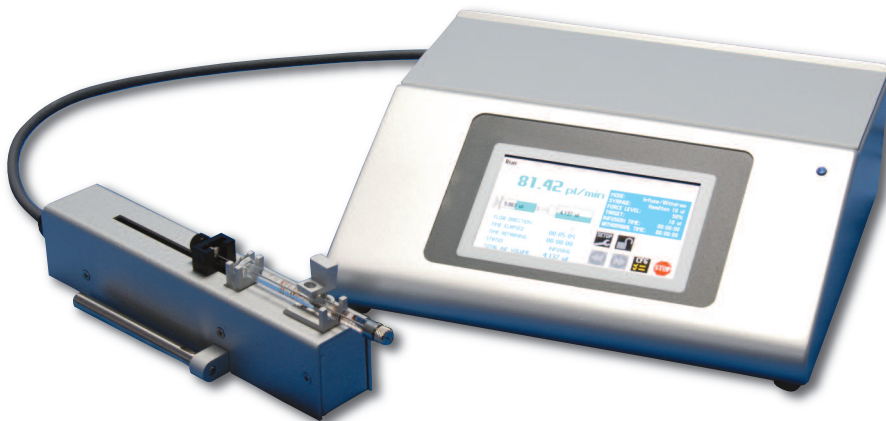
Applications

- Stereotaxic injections
- Microfluidics
- Drug Discovery
- Nanofluidics
- Flow Cytometry
- Mass Spec Calibrant
- Organic Synthesis
- Surface Plasma Resonance

Markets

- Pharmaceutical
- Biotech
- Chemical
- Neuroscience
- Research and Development
- Government
- Petrochemical
- Food and Beverage

KDS Legato™ 130 Nanoliter Infuse/withdraw Only Syringe Pump



The NEW Legato™ 130 Nanoliter is ideal for stereotaxic and micro manipulator devices and other clamping devices

The KDS Legato 130 works exclusively with micro syringes from 0.5ul to 1000ul. It has a remote pump head which can be placed close to the experiment to eliminate dead volume with long tubing. The Legato 130 has a flow rate range from 3.66 pl/min to 3.818 ml/min depending on the syringe size. The remote pump head is ideal for use with a micromanipulator, stereotaxic and other clamping devices. The large color display allows the user to see all of the pumps operating parameters to ensure proper operation during the experiments. Syringe size and flow rate are easily displayed as well as the volume delivered and the elapsed time. Set up is easy using the icon driven software. The Legato 130 along with the Legato 110 and 180 offer the smoothest flow of all of the legato pumps.

The Legato 130 is an infuse/withdraw single syringe pump. It accommodates a single syringe from 0.5 ul to 1000 ul. Any type of syringe can be used including glass and plastic. The syringes are held securely in place by KD Scientific's new clamping mechanism. The run screen has all of the pump parameters, as well as, the pumps running conditions. The syringe plunger can be tightly secured with a movable mounting screw. The basic pump offers the same easy to use touch screen configuration and "run" screen as the more

advanced Legato 200. An LED light on the front panel makes it easy to see if the pump is running. Syringe size and flow rates are easily displayed as well as the volume delivered and the elapsed time.

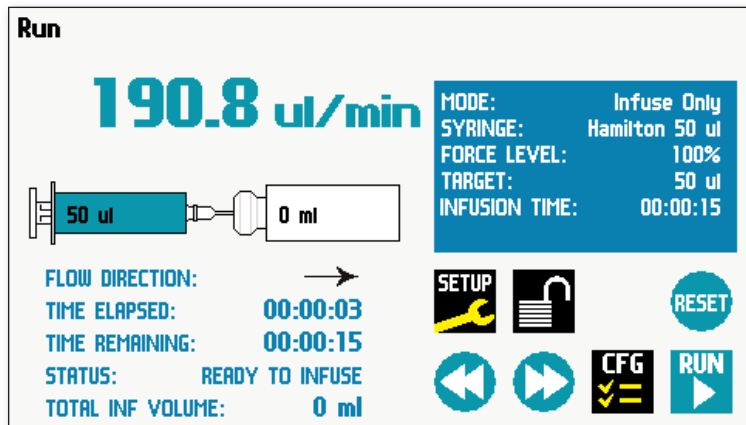
The pumps are versatile and can be connected through the RS485 interface. Advanced micro stepping techniques are employed to further reduce the step angle to eliminate flow pulsation. The accuracy is $\pm 0.5\%$. A wide dynamic flow range from pico liters per minute to millimeters per minute can be programmed into the pump. Add the New Adagio software to maximize the use of the pumps functions and features. Adagio allows you to configure the pump through the software as well as operate one or multiple pumps. In addition, the National Instruments Labview drivers are available on their website.

KD Scientific pumps are acknowledged as the industry's highest value solution for delivering precise and smooth flow. KD Scientific is recognized worldwide for quality and reliability at an economical price and has the broadest line of syringe pumps to meet your specific application. KD Scientific is committed to delivering the highest level of customer satisfaction, as well as technical support for all their products.

NOTE: KD Scientific syringe pumps are for laboratory use only.

Intuitive Run Screen

Combining multiple parameters simultaneously with internationally recognizable icons allow the Legato™ Series to provide a new level of intuitive syringe pump operation.



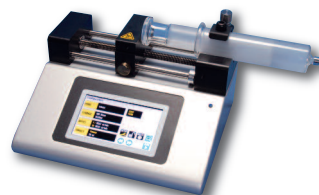
Flow Rates

Syringe	Diameter	Minimum	Maximum
0.5 μl	0.103 mm	3.66 pl/min	1.908 $\mu\text{l}/\text{min}$
1 μl	0.146 mm	7.32 pl/min	3.818 $\mu\text{l}/\text{min}$
2 μl	0.206 mm	14.64 pl/min	7.631 $\mu\text{l}/\text{min}$
5 μl	0.343 mm	40.74 pl/min	21.16 $\mu\text{l}/\text{min}$
10 μl	0.485 mm	81.42 pl/min	42.3 $\mu\text{l}/\text{min}$
25 μl	0.729 mm	184.0 pl/min	95.57 $\mu\text{l}/\text{min}$
50 μl	1.03 mm	367.4 pl/min	190.8 $\mu\text{l}/\text{min}$
100 μl	1.457 mm	735.2 pl/min	381.8 $\mu\text{l}/\text{min}$
250 μl	2.304 mm	1.838 nL/min	954.6 $\mu\text{l}/\text{min}$
500 μl	3.256 mm	3.672 nL/min	1.906 ml/min
1000 μl	4.608 mm	7.354 nL/min	3.818 ml/min

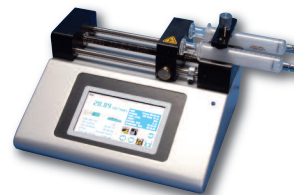
Specifications

Model	KDS Legato 130
Syringe Size	0.5 μl to 1000 μl
Power	100-240 VAC: 50/60 Hz, 50 W, 0.5 A fuse
Motor Drive Control	Microprocessor with 1/16 microstepping
Linear Force (Maximum)	5 kg (11 lbs) @ 100% Force Selection
Number of Microsteps per One Revolution of Lead Screw	3,200
Step rate (Minimum)	27.5 sec/μstep
Step rate (Maximum)	52 μsec/μstep
Drive Motor	1/8" Stepper Motor
Pusher Travel Rate - (Minimum)	0.433 $\mu\text{m}/\text{min}$
Pusher Travel Rate - (Maximum)	228.87 mm/min
Flow Rate (Minimum)	3.66 pl/min (0.5 μl syringe)
Flow Rate (Maximum)	3.818 ml/min (1 ml syringe)
Dimensions	9 x 19.05 x 7.62 cm (9 x 7.5 x 5 in)
Weight	2.05 kg (4.32 lbs)
Connectors	RS-232 - 9 Pin D-Sub Connector, RS485 - IEEE-1394 6 pos, USB - Type B

KDS Legato™ 100 Family of Syringe Pumps



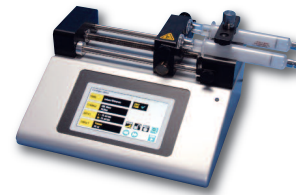
Legato 100
Infuse Only
Single Syringe



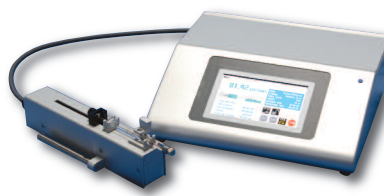
Legato 101
Infuse Only
Dual Syringe



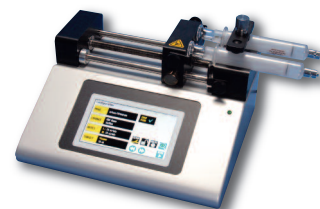
Legato 110
Infuse/Withdraw
Single Syringe



Legato 111
Infuse/Withdraw
Dual Syringe



Legato 130
Infuse/Withdraw
Remote Control
Nanoliter



Legato 180
Infuse/Withdraw
Picoliter

Recommended for microfluidic applications