

**Benefits**

- Entry level Legato model
- Accurate flow delivery
- High precision fluid dosing
- Use any manufacturer syringe
- Constant and variable flow rates
- User selectable volume delivery

**Features**

- Accuracy  $\pm 0.5\%$
- Holds one syringe from 0.5  $\mu$ l to 60 ml
- High resolution color touch screen
- Unparallel ease of use
- Password protection for program configuration
- Run LED light on front panel
- Stable flow design
- Built in syringe table
- Up to 30 lbs (13.6 kg) linear force
- Built in RS-485 interface to link multiple pumps
- USB port
- Footswitch Interface
- Protection with a spill dam
- CE, UL, CSA, CB Scheme, EU RoHS

**Applications**

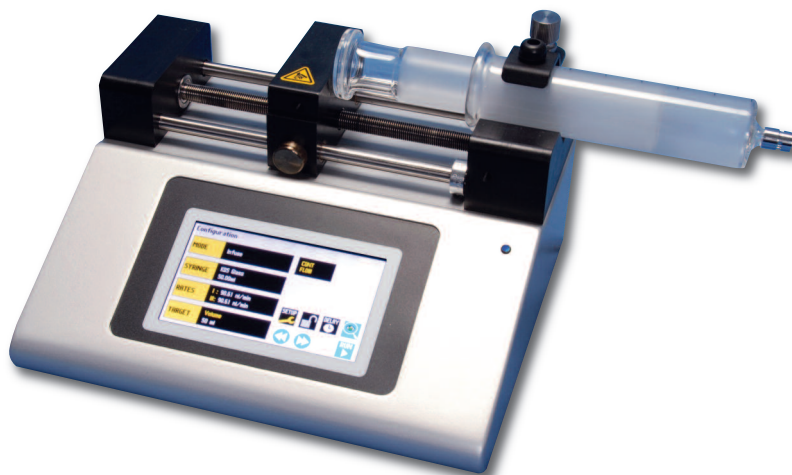
- Electrospinning
- Microfluidics
- Drug Discovery
- Nanofluidics
- Flow Cytometry
- Mass Spec
- Organic Synthesis
- Stereotaxic Injections

**Markets**

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

# KDS Legato™ 100

## Infuse Only Syringe Pump



**The NEW entry level Legato 100 is ideal for electrospinning, mass spec calibration and other applications where a single syringe is used**

The KDS Legato 100 Single Syringe infuse only is the worlds first single syringe infusion only pump with a touch screen interface. The Legato 100 has a wide flow rate range from 1.26 pl/min to 88.32 ml/min depending on syringe size. The large touch screen 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 100 is an infuse only syringe pump. It accommodates a single syringe from 0.5 ul to 60 ml. Any type of syringe can be used in the unit including glass, plastic or stainless steel. The syringes are held in place by KD Scientifics' new clamping mechanism designed to hold syringes securely in place. The run screen has all of the pump parameters, as well as, the pumps running conditions. 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 multiple pumps 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 values 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.**

**kdScientific**

84 October Hill Road • Holliston, MA 01746

www.kdscientific.com • phone 508.429.6809 • fax 508.893.0160

## 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.

**Run**

**36.003 ml/min**

MODE: Infuse Only  
 SYRINGE: KDS Glass 10 ml  
 FORCE LEVEL: 100%  
 TARGET: No target set  
 INFUSION TIME: 00:00:16

5.078 ml      5.048 ml

FLOW DIRECTION: →  
 TIME ELAPSED: 00:00:09  
 TIME REMAINING: 00:00:08  
 STATUS: INFUSING  
 TOTAL INF VOLUME: 4.741 ml

SETUP      [Icon]  
 [Icon]      [Icon]  
 [Icon]      [Icon]      CFG      STOP

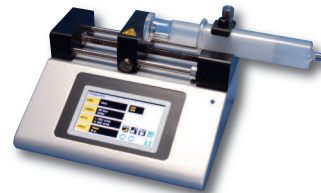
## Flow Rates

Syringe	Diameter	Minimum	Maximum
0.5 µl	0.103 mm	1.260 pl/min	1.325 µl/min
1 µl	0.146 mm	2.520 pl/min	2.651 µl/min
2 µl	0.206 mm	5.100 pl/min	5.299 µl/min
5 µl	0.343 mm	14.100 pl/min	14.690 µl/min
10 µl	0.485 mm	28.260 pl/min	29.380 µl/min
25 µl	0.729 mm	63.900 pl/min	66.370 µl/min
50 µl	1.03 mm	127.600 pl/min	132.500 µl/min
100 µl	1.457 mm	255.20 pl/min	265.100 µl/min
250 µl	2.304 mm	638.300 nl/min	662.900 µl/min
500 µl	3.256 mm	1.275 nl/min	1.324 ml/min
1000 µl	4.608 mm	2.553 nl/min	2.652 ml/min
1 ml	4.699 mm	2.655 nl/min	2.757 ml/min
3 ml	8.585 mm	8.863 nl/min	9.204 ml/min
5 ml	11.989 mm	17.290 nl/min	17.950 ml/min
10 ml	14.427 mm	25.030 nl/min	25.990 ml/min
20 ml	19.05 mm	43.640 nl/min	45.320 ml/min
30 ml	21.59 mm	56.050 nl/min	58.210 ml/min
60 ml	26.594 mm	85.050 nl/min	88.320 ml/min

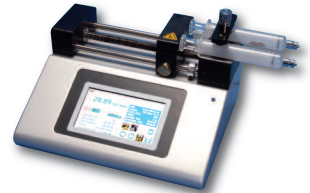
## Specifications

Model	KDS Legato 100
Syringe Size	0.5 µl to 60 ml
Power	100-240 VAC: 50/60 Hz, 50 W, 0.5 A fuse
Motor Drive Control	Microprocessor with 1/16 microstepping
Linear Force (Maximum)	13.6 kg (30 lbs) @ 100% Force Selection
Number of Microsteps per One Revolution of Lead Screw	15,360
Step rate (Minimum)	27.5 sec/µstep
Step rate (Maximum)	26 µsec/µstep
Drive Motor	0.9 degree Stepper Motor
Pusher Travel Rate - (Minimum)	0.15 µm/min
Pusher Travel Rate - (Maximum)	159 mm/min
Flow Rate (Minimum)	1.26 pl/min (0.5 µl syringe)
Flow Rate (Maximum)	88.32 ml/min (60 ml syringe)
Dimensions	22.6 x 19.05 x 15 cm (9 x 7.5 x 5 in)
Weight	2.66 kg (5.9 lbs)
Connectors	RS485 - IEEE-1394 6 pos, USB - Type B

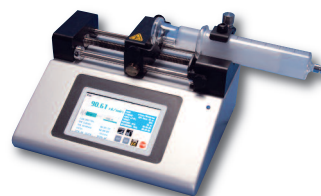
## KDS Legato™ 100 Family of Syringe Pumps



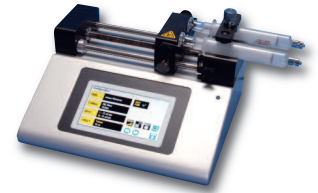
**Legato 100**  
Infuse Only  
Single Syringe



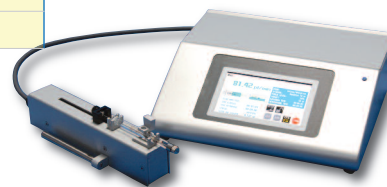
**Legato 101**  
Infuse Only  
Dual Syringe



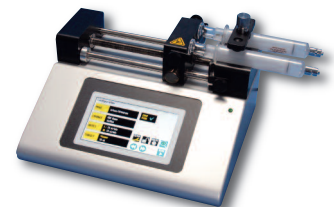
**Legato 110**  
Infuse/Withdraw  
Single Syringe



**Legato 111**  
Infuse/Withdraw  
Dual Syringe



**Legato 130**  
Infuse/Withdraw  
Remote Control  
Nanoliter



**Legato 180**  
Infuse/Withdraw  
Picoliter

Recommended for microfluidic applications