Benefits

- Multi mode operation
- Automatic dispensing of small volumes
- Constant delivery of fluids
- Hands free operation
- Better flow performance

Features

- Accuracy ±0.5%
- Holds one or two syringes from 0.5 µl to 10 µl
- High resolution color touch screen
- Unparalleled 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

- 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™ 111

Infuse/Withdraw Syringe Pump

The NEW Legato™ 111 dual syringe infuse/withdrawal nanoliter syringe pump is ideal for applications that require smooth accurate flow performance

The KDS Legato 111 infuse/withdraw is a dual syringe pump with a touch screen interface. It is based on the Legato 101 and is enhanced with multi-mode capability like the Legato 110 and multi-step programming. The Legato 111 has a wide flow rate range from 1.26 pl/min to 25.99 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. Any type of syringe can be used in the unit including glass, plastic and stainless steel.

The Legato 111 is an infuse/withdraw dual syringe pump. It accommodates two syringes from 0.5 ul to 10 ml. 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 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 +_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. It allows you to configure the pump through the software as well as operate one or multiple pumps. In addition 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.

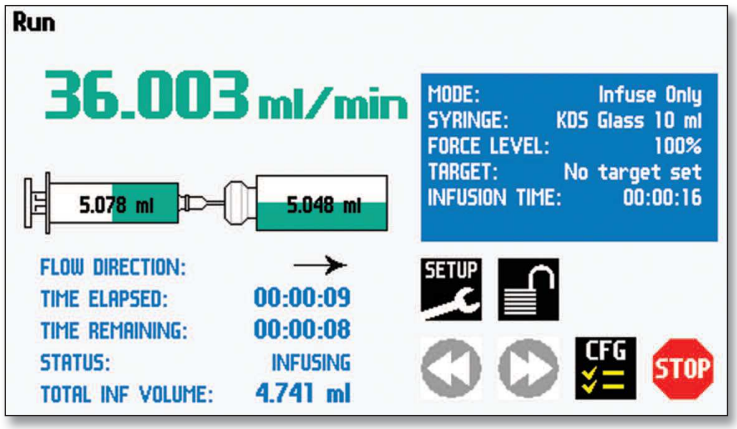
NOTE: KD Scientific syringe pumps are for laboratory use only.

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.



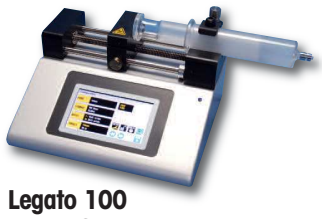
Specifications

Model	KDS Legato 111
Syringe Size	0.5 µl to 10 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)	25.99 ml/min (10 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	RS-232 - 9 Pin D-Sub Connector, RS485 - IEEE-1394 6 pos, USB - Type B

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

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

Reccomended for microfluidic applications

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