

**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**

- Holds one or two syringes from 0.5  $\mu$ l to 10 ml
- High resolution color touch screen
- Unparalleled ease of use
- Password lock
- LED light on front panel
- Full metal chassis
- Built in syringe table
- Up to 30 lbs (13.6 kg) linear force
- Built in RS-485 interface
- USB port
- Footswitch Interface
- Protection with spill dam
- CE, UL, CSA, CB Scheme, EU RoHS

**Applications**

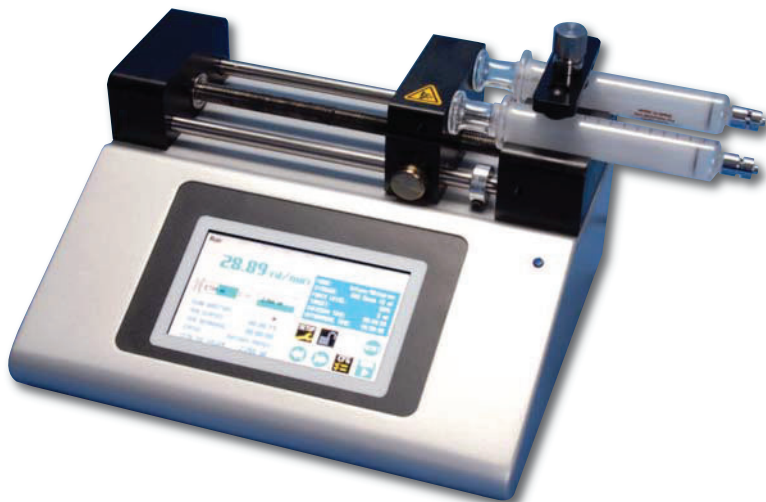
- Microfluidics
- Drug Discovery
- Nanofluidics
- Flow Cytometry
- Mass Spec Calibrant
- Organic Synthesis
- Surface Plasma Resonance

**Markets**

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

# KDS Legato™ 101

## Infuse Only Syringe Pump



### The NEW Legato 101 nanoliter syringe pump is ideal for organic synthesis and other applications with small volumes under 10ml

The KDS Legato 101 infuse only dual syringe is ideal for applications where dual syringes are required with small volumes under 10ml. The Legato 101 has a wide flow rate range from 1.26  $\mu$ l/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.

The Legato 101 is an infuse only dual syringe pump. It accommodates two syringes from 0.5  $\mu$ l to 10 ml. 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. Any type of syringe can be used in the unit including glass, plastic and stainless steel. 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 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**

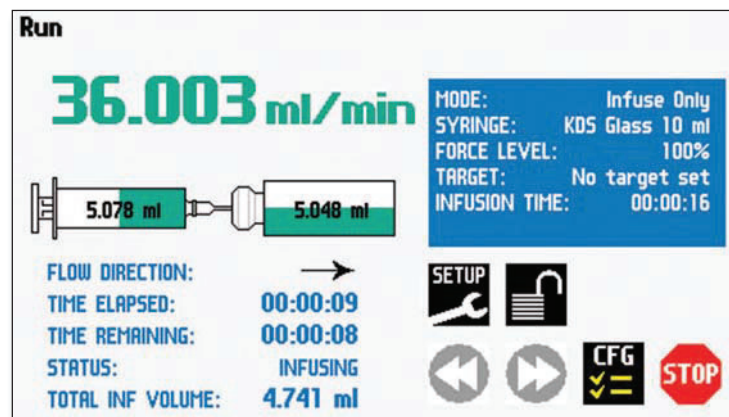
84 October Hill Road • Holliston, MA 01746

[www.kdscientific.com](http://www.kdscientific.com) • phone 508.429.6809 • fax 508.893.0160

Rev A

## 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.



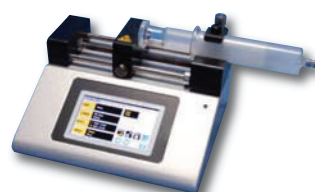
## Flow Rates

| Syringe | Diameter  | Minimum        | Maximum        |
|---------|-----------|----------------|----------------|
| 0.5 µl  | 0.103 mm  | 1.260 µl/min   | 1.325 µl/min   |
| 1 µl    | 0.146 mm  | 2.520 µl/min   | 2.651 µl/min   |
| 2 µl    | 0.206 mm  | 5.100 µl/min   | 5.299 µl/min   |
| 5 µl    | 0.343 mm  | 14.100 µl/min  | 14.690 µl/min  |
| 10 µl   | 0.485 mm  | 28.260 µl/min  | 29.380 µl/min  |
| 25 µl   | 0.729 mm  | 63.900 µl/min  | 66.370 µl/min  |
| 50 µl   | 1.03 mm   | 127.600 µl/min | 132.500 µl/min |
| 100 µl  | 1.457 mm  | 255.20 µl/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  |

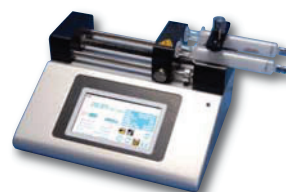
## Specifications

| Model                                                 | KDS Legato 101                                                              |
|-------------------------------------------------------|-----------------------------------------------------------------------------|
| 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 µl/min (0.5 µl syringe)                                                |
| Flow Rate (Maximum)                                   | 25.99 µl/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,<br>RS485 - IEEE-1394 6 pos,<br>USB - Type B |

## KDS Legato™ 100 Family of Syringe Pumps



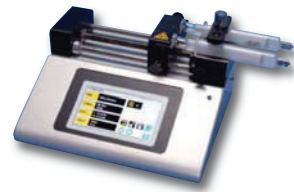
**Legato 100**  
Infuse Only  
Single Syringe



**Legato 101**  
Infuse Only  
Dual Syringe



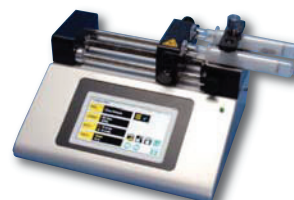
**Legato 110**  
Infuse/Withdraw  
Single Syringe



**Legato 111**  
Infuse/Withdraw  
Dual Syringe



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



**Legato 180**  
Infuse/Withdraw  
Picoliter

*Recommended for microfluidic applications*

**Agence Nord:**  
ZA Object'ifs Sud - Lot A3  
6 Allée Emilie du Châtelet  
14123 Ifs  
tél : 02.31.34.50.74  
fax : 02.31.34.55.17



**Agence Est:**  
Parc Club des Tanneries  
2 Rue de la Faisanderie  
67380 Lingolsheim  
tél : 03.88.04.01.81  
fax : 03.68.93.01.52

**Agence Sud:**  
Bât Le Venango, 392 Rue Jean Dausset  
AGROPARC - BP11575  
84916 Avignon Cédex 9  
tél : 04.90.27.17.95 fax : 04.90.27.17.52

[www.deltalabo.fr](http://www.deltalabo.fr)  
[info@deltalabo.fr](mailto:info@deltalabo.fr)

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