the next generation of Peristaltic Pumps

Intuitive Touch Screen
Selectable Tubing Table
Automatic Tubing Break-In
Flow Rate & Key Parameters Displayed
User Configurable Multi-Step Operation
The NEW KD Scientific Allegro™ Peristaltic Pump System allows maintenance free, continuous flow pumping of various liquids. The fluid contacts only the inside surface of the tubing negating concern for valves, O-rings or seals that might be incompatible with fluid being pumped.

- Clearly displays flow rate and total dispensed volume
- User configurable multi-step operation
- Dispenses in forward or reverse direction
- Adjustable flow rate while pump is running
- Stackable sealed remote pump drive with IP 32 rating
- Selectable tubing table
- Automatic tubing break-in
- Automatic calibration procedures
- External connectivity with USB interface and I/O port
- Easy to maintain

Masterflex® L/S® Easy Load® II Pump Head

The KD Scientific Allegro™ Peristaltic Pump System uses the prestigious Masterflex® L/S® Easy Load® II Pump Head. This fixed occlusion pump head requires no manual adjustments for tubing changes. Simply place your tubing in the pump head tubing retainer and rotate the lever to lock the cam in position.

- Delivers a wide range of flow rates
- Single or dual channel capability
- Quick and simple tubing changes with overhead cam
- Four-roller rotor reduces flow pulsation

Flow rate and key parameters clearly displayed

Rugged controller housed in cold rolled steel

Intuitive graphical interface with touch screen control

Masterflex® L/S® Easy Load® II Pump Head

World renown Masterflex® L/S® Easy Load® II Pump Head

Remote pump head can be placed up to 1.5 m (5 ft) from controller with integrated controller cable

Sealed, cold rolled steel pump driver rated for ingress protection (IP 32)

Overhead CAM for quick and simple tubing changes

Automatic tubing retainers allow multiple tubing sizes

Compatible with Masterflex® 0.8 mm - 8.0 mm ID tubing
KD Scientific Advantage
Recognized Worldwide...

KD Scientific Liquid Handling Products are the #1 choice of Life Science and Industrial Researchers

Extensive Applications

Life Sciences
- pharmaceutical development
- mixing chemicals
- high flow drug screening
- fermentation and cell culture
- dispensing and dosing
- solvent transfer

Industrial
- compact and easily integrated into OEM applications
- ink dispensing
- slurry transfer
- plating chemicals
- paper manufacturing/pump monitoring
- cleaning
- chemical baths
- pH control for water & waste

Research & Development

Liquid or Gas Circulation
- sample extraction
- sterilized media dispensing
- chemical metering
- analytical chemistry
- feeding continuous flow analyzers

Food & Beverage
- hygienic pumping of chemicals, oils, fats and other aggressive food products
- withdraw sanitary samples from process line
- easily pump viscous foods
- quick tubing changes allow for multiple batch testing

phone 508.429.6809  •  fax 508.893.0160
Simple Setup for Routine & Complex Applications

Intuitive Touch Screen
The Allegro™ touch display run screen presents the user with all key dispensing parameters in real time.
- Intuitive graphical interface and touch screen
- Flow rate and key parameters clearly displayed
- Internationally recognized icons
- All program settings are indicated on the touch screen
- Alarm indication and messages
- Pump diagnostic/information
- Display rotates with horizontal/vertical orientation

Simple Tubing Setup and Calibration
Tubing tables allow simple selection of any compatible tubing size. Masterflex® L/S® tubing selections are also available along with the ability to enter customer tubing sizes.
Automatic tubing break-in procedures allow the user to prepare tubing for operation. Simply insert tubing into the pump head and select the appropriate tubing break-in procedure. The Allegro™ Peristaltic Pump System does the rest.

Current flow rate
Pump settings
Flow rate (ml/min)
Alarm
Dispensing status
Total volume dispensed
Dispense time remaining
Dispense time elapsed
Flow direction
Pump diagnostic/information
Horizontal orientation
Vertical orientation (Display rotates 90°)

Tubing Size Selection
- L/S® 16
- L/S® 25
- L/S® 17

A Model for Your Application
The NEW KD Scientific Allegro™ Peristaltic Pump System allows maintenance free, continuous flow pumping of various liquids. The fluid contacts only the inside surface of the tubing, negating concern for valves, O-rings or seals that might be incompatible with the fluid being pumped.

The innovative Allegro™ Peristaltic Pump System can dispense in forward or reverse direction, be programmed for your specific flow profile or just dispense at the touch of the screen. All parameters are clearly displayed on the touch screen display for easy viewing.

Allegro™ I Peristaltic Pump System
- One channel pump head
- Flow rates up to 1500 ml/min
- Accepts tubing ID sizes 0.8 mm (0.03 in) - 8.0 mm (0.32 in)
- Compatible with Masterflex® L/S® 13, L/S® 14, L/S® 16, L/S® 25 and L/S® 18 tubing

Allegro™ II Peristaltic Pump System
- Two channel pump head
- Two simultaneous individual flows or one combined flow
- Flow rates up to 720 ml/min with combined channels
- Accepts tubing ID sizes 0.8 mm (0.03 in) - 4.8 mm (0.19 in)
- Compatible with Masterflex® L/S® 13, L/S® 14, L/S® 16 and L/S® 25 tubing

Allegro™ III Peristaltic Pump System
- Two single channel pump heads
- Two simultaneous individual flows or one combined flow
- Flow rates up to 2000 ml/min with combined channels
- Accepts tubing ID sizes 0.8 mm (0.03 in) - 8.0 mm (0.32 in)
- Compatible with Masterflex® L/S® 13, L/S® 14, L/S® 16, L/S® 25, L/S® 17 and L/S® 18 tubing

A Model for Your Application
Tubing tables for quick tubing setup
Tubing calibration procedure for precise accuracy

Current flow rate
Pump settings
Flow rate (ml/min)
Alarm
Dispensing status
Total volume dispensed
Dispense time remaining
Dispense time elapsed
Flow direction
Pump diagnostic/information
Horizontal orientation
Vertical orientation (Display rotates 90°)

Tubing Size Selection
- L/S® 16
- L/S® 25
- L/S® 17

A Model for Your Application
The NEW KD Scientific Allegro™ Peristaltic Pump System allows maintenance free, continuous flow pumping of various liquids. The fluid contacts only the inside surface of the tubing, negating concern for valves, O-rings or seals that might be incompatible with the fluid being pumped.

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- Two simultaneous individual flows or one combined flow
- Flow rates up to 720 ml/min with combined channels
- Accepts tubing ID sizes 0.8 mm (0.03 in) - 4.8 mm (0.19 in)
- Compatible with Masterflex® L/S® 13, L/S® 14, L/S® 16 and L/S® 25 tubing

Allegro™ III Peristaltic Pump System
- Two single channel pump heads
- Two simultaneous individual flows or one combined flow
- Flow rates up to 2000 ml/min with combined channels
- Accepts tubing ID sizes 0.8 mm (0.03 in) - 8.0 mm (0.32 in)
- Compatible with Masterflex® L/S® 13, L/S® 14, L/S® 16, L/S® 25, L/S® 17 and L/S® 18 tubing
Advanced Capabilities with Simple Configuration

User Configurable Multi-Step Operation
The Allegro® Peristaltic Pump System contains advanced features developed to allow quick setup of complex tasks.
- Multiple users can benefit from the Allegro™ programmable multi-step operation by saving their specific configurations and recalling them with the touch of a button.
- Programmable multi-step operation makes application programs easy to set up. The user can select from advanced operational profiles including constant rate, ramp, stepped and pulsed flow.
  - Store multiple programs
  - Easy program retrieval
  - Simple flow configuration
  - Predefined operational profiles
  - Identify programs with alphanumeric labels
  - Trigger pumps using programmable TTL
  - Export programs to a computer or another pump
  - Multiple users can benefit from the Allegro™ programmable multi-step operation by saving their programs in a computer.
  - The Allegro™ pump can be used to control multiple pumps in parallel or in series.
  - The Allegro™ pump can be used to control multiple pumps in parallel or in series.

Connectivity & Communication
The Allegro™ Peristaltic Pump System can easily accept commands or signals from external processes to control the pump. The unit offers USB, ideal for sending and receiving pump control commands. The Allegro™ can also be networked using RS-485. The digital I/O port can be used to send or receive remote signals from an external process or controller. An optional footswitch can be used to send or receive remote signals from an external process or controller. A contact or switch. An optional footswitch can be used to send or receive remote signals from an external process or controller.

Rugged Design with World Class Specifications
The NEW Allegro™ Peristaltic Pump family is engineered for worldwide regulatory compliance. The outstanding durability and quality of this advanced peristaltic system is second to none.

<table>
<thead>
<tr>
<th>Unit Specification</th>
<th>Parameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tubing Size (Inner diameter min/max)</td>
<td>0.8-8.0 mm (Allegro™ I, II); 0.8-4.8 mm (Allegro™ III)</td>
</tr>
<tr>
<td>Tubing Durometer Range (min/max)</td>
<td>65A-62A (Consult KD Scientific for using a higher durometer)</td>
</tr>
<tr>
<td>Flow Rate (per channel, tubing dependent)</td>
<td>Please see tube size flow rate chart</td>
</tr>
<tr>
<td>Accuracy</td>
<td>± 1 %**</td>
</tr>
<tr>
<td>Display</td>
<td>4.3 in WVGA TFT color display with touch screen</td>
</tr>
<tr>
<td>Non-Volatile Memory</td>
<td>Stores all settings</td>
</tr>
<tr>
<td>Connectors:</td>
<td></td>
</tr>
<tr>
<td>RS-485</td>
<td>IEEE-1394, 6 pin</td>
</tr>
<tr>
<td>USB</td>
<td>Type B</td>
</tr>
<tr>
<td>Input/Output (I/O)</td>
<td>15 pin D-sub connector</td>
</tr>
<tr>
<td>Footswitch Connection</td>
<td>Mini phono jack</td>
</tr>
<tr>
<td>Pressure (max)</td>
<td>30 psi</td>
</tr>
<tr>
<td>Drive Motor</td>
<td>1.8° stepper motor</td>
</tr>
<tr>
<td>Motor Drive Control</td>
<td>Microchip processor with 1/16 microstepping</td>
</tr>
<tr>
<td>Step Rate:</td>
<td></td>
</tr>
<tr>
<td>Minimum</td>
<td>27.5 sec/step (Allegro™ I, II &amp; III)</td>
</tr>
<tr>
<td>Maximum</td>
<td>50 sec/step (Allegro™ I, II &amp; III)</td>
</tr>
<tr>
<td>Maximum RPM:</td>
<td></td>
</tr>
<tr>
<td>Allegro™ I</td>
<td>213 RPM</td>
</tr>
<tr>
<td>Allegro™ II/Allegro™ III</td>
<td>313 RPM</td>
</tr>
<tr>
<td>Input Power</td>
<td>30 VDC, 1.67 A using approved Allegro™ power supply (included)</td>
</tr>
<tr>
<td>Input Power Connection</td>
<td>2.5 x 0.5 mm OD male plug</td>
</tr>
<tr>
<td>Power Supply</td>
<td>100-240 VAC, 50-60 Hz; 8 watts universal</td>
</tr>
<tr>
<td>Power Supply use only a KD Scientific approved power supply and line cord.</td>
<td></td>
</tr>
<tr>
<td>Dimensions (Control Box)</td>
<td>11.3 x 12.0 x 2.5 in (9.0 x 7.5 x 6.3 in)</td>
</tr>
<tr>
<td>Dimensions (Pump Motor/Head)</td>
<td>11.3 x 24.1 x 11.8 cm (4.5 x 9.5 x 4.63 in)</td>
</tr>
<tr>
<td>Weight 2.66 Kg (5.9 lbs)</td>
<td>Weight 5.9 Kg (13.0 lbs)</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>4°C to 40°C (40°F to 104°F)</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-10°C to 70°C (14°F to 158°F)</td>
</tr>
<tr>
<td>Ingress Protection</td>
<td>IP25 (pump head &amp; drive)</td>
</tr>
<tr>
<td>Storage Humidity</td>
<td>20% to 80% RH; non-condensing</td>
</tr>
<tr>
<td>Method of Operation</td>
<td>Continuous forward/continuous reverse</td>
</tr>
<tr>
<td>Classification</td>
<td>Class I</td>
</tr>
<tr>
<td>Pollution Degree</td>
<td>1</td>
</tr>
<tr>
<td>Installation Category</td>
<td>II</td>
</tr>
<tr>
<td>Regulatory Certifications</td>
<td>CE I, II, &amp; CSA, CB scheme, IRISH, VEE</td>
</tr>
<tr>
<td>Safety Declarions</td>
<td>EN 61010-1:3rd Ed., CB scheme</td>
</tr>
<tr>
<td>EMC Declaration</td>
<td>IEC 61326-1 Ed. 1</td>
</tr>
</tbody>
</table>

Allegro™ Specification Notes:
* The Allegro™ Peristaltic Pump System can run higher or lower tubing depending on the Allegro™ model and customer application. Please consult KD Scientific for additional information.
** Accuracy specification assumes user performance of tubing break-in and calibration. KD Scientific pumps are for laboratory use only. They have not been approved by the FDA for clinical use on patients. Specifications are subject to change.

Pump head/drive connection DC/RS-485 power switch source
Digital input/output port DC power input

The NEW Allegro™ Peristaltic Pump family is engineered for worldwide regulatory compliance. The outstanding durability and quality of this advanced peristaltic system is second to none.
Ordering Information: Models & Tubing

The Allegro™ I, II & III are available as complete systems. An optional footswitch for remote start/stop, TTL, communication cable for synchronous control and other accessories are available. Tubing is sold separately.

KD Scientific recommends Masterflex® L/S tubing to achieve the best performance from your Allegro™ Peristaltic Pump. The tubing used in the Allegro™ Peristaltic Pump will depend on the pumping application. It is important to select tubing with appropriate chemical resistance for the liquid being pumped. KD Scientific offers various formulations of Masterflex® tubing. The tubing ordering table lists the current tubing offerings. If your desired formulation is not listedKD Scientific recommends Masterflex® tubing is sold separately.

KD Scientific offers a variety of tubing sizes and lengths. The tubing ordering table lists the current tubing offerings. If your desired tubing is not listed, please contact KD Scientific for assistance.

### Allegro™ System Ordering Information

**Order #** | **Product Name** | **Description**
--- | --- | ---
785501 | Allegro™ I Peristaltic Pump System | Single channel, Masterflex® Pump Head, drive and controller
785502 | Allegro™ II Peristaltic Pump System | Dual channel, Masterflex® Pump Head, drive and controller
785503 | Allegro™ III Peristaltic Pump System | Two single channel, Masterflex® Pump Head, drive and controller

**Accessories**

780225 | Allegro™ Footswitch | Footswitch with phono jack drive (Allegro™ I, II & III)
785531 | Allegro™ II III Conversion Kit | Single channel, thin wall tubing head and hardware
785432 | Allegro™ Stacking Base | Allows two Allegro™ units to be vertically stacked
788355 | TTI Communication Cable | Connects two Allegro™ controllers for programmable control

### Additional Components

785511 | Allegro™ I Head/Driver | Single channel, thin wall tubing head and drive
785512 | Allegro™ II Head/Driver | Dual channel, thin wall tubing head and drive
785513 | Allegro™ III Head/Driver | Two single channel, thin wall tubing head and drive
785521 | Allegro™ Touch Controller | Allegro™ I touch controller for Allegro™ I, II & III

Registered trademarks belong to their respective companies.

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### Tubing Ordering Information

**Order #** | **Tubing Size** | **Tubing ID** | **Description**
--- | --- | --- | ---
C-Flex™ Ultra
785601 | L/S 14 | 1.6 mm (0.06 in) | 7.6 m (25 ft)/pk
785602 | L/S 16 | 3.1 mm (0.12 in) | 7.6 m (25 ft)/pk
785603 | L/S 25 | 4.9 mm (0.19 in) | 7.6 m (25 ft)/pk
785604 | L/S 17 | 6.4 mm (0.25 in) | 7.6 m (25 ft)/pk
785605 | L/S 18 | 7.9 mm (0.31 in) | 7.6 m (25 ft)/pk

**FDA Viton®**

785606 | L/S 13 | 10.8 mm (0.43 in) | 7.6 m (25 ft)/pk
785607 | L/S 14 | 1.6 mm (0.06 in) | 7.6 m (25 ft)/pk
785608 | L/S 16 | 3.1 mm (0.12 in) | 7.6 m (25 ft)/pk
785609 | L/S 25 | 4.8 mm (0.19 in) | 7.6 m (25 ft)/pk
785610 | L/S 17 | 6.4 mm (0.25 in) | 7.6 m (25 ft)/pk
785611 | L/S 18 | 7.9 mm (0.31 in) | 7.6 m (25 ft)/pk

**Tygon® ELF**

785612 | L/S 13 | 0.8 mm (0.03 in) | 7.6 m (25 ft)/pk
785613 | L/S 14 | 1.6 mm (0.06 in) | 7.6 m (25 ft)/pk
785614 | L/S 16 | 3.1 mm (0.12 in) | 7.6 m (25 ft)/pk
785615 | L/S 25 | 4.8 mm (0.19 in) | 7.6 m (25 ft)/pk
785616 | L/S 17 | 6.4 mm (0.25 in) | 7.6 m (25 ft)/pk
785617 | L/S 18 | 7.9 mm (0.31 in) | 7.6 m (25 ft)/pk

**Tygon® E-Food**

785618 | L/S 13 | 0.8 mm (0.03 in) | 15.2 m (50 ft)/pk
785619 | L/S 14 | 1.6 mm (0.06 in) | 15.2 m (50 ft)/pk
785620 | L/S 16 | 3.1 mm (0.12 in) | 15.2 m (50 ft)/pk
785621 | L/S 25 | 4.8 mm (0.19 in) | 15.2 m (50 ft)/pk
785622 | L/S 17 | 6.4 mm (0.25 in) | 15.2 m (50 ft)/pk
785623 | L/S 18 | 7.9 mm (0.31 in) | 15.2 m (50 ft)/pk

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**More from KD Scientific**

### KDS Legacy Series Syringe Pumps

The KDS Legacy series syringe pumps are the latest generation of syringe pumps. The Legacy series offers unparalleled ease of use through the high resolution touch screen interface.

- **Single and dual syringe infuse, infuse withdraw & continuous models**
- Flow direction indicator
- Anti-siphon clamp
- Infuse/withdraw models only
- Easy-to-use and set up different configurations
- User controllable multi-step operation (model dependent)

**KDS Legato® 100 Series Syringe Pumps**

- Standard syringe library
- USB Interface
- RS 232 Interface
- Better flow performance and repeatability down to nl/hour
- Eliminate dead volume with fast forward/fast reverse
- Multi-rack configurations available

KD Scientific pumps are for laboratory use only. They have not been approved by the FDA for clinical use on patients.
More from KD Scientific

Centrifan® Small Volume Evaporator

The Centrifan™ PE Evaporator/Concentrator is a small volume evaporator that eliminates the problem of bumping using patented SBT (Self Blowdown Technology). SBT allows solvent drying using heated, circulating gas flow and NO VACUUM PUMP!

- No vacuum pump - no bumping!
- Easy-to-use - no monitoring
- Quick set-up - put in the samples and close the cover
- Small footprint
- Dry directly in vials
- Cost effective

6 x 16 x 100 mm Test Tubes

6 x 16 x 100 mm Test Tubes

6 x 30 ml Scintillation Vials

6 x 30 ml Scintillation Vials

6 x 40 ml Scintillation Vials

6 x 4 ml Vials

8 x 4 ml Vials

8 x 1.6 ml Micro-Centrifuge Tubes

10 x 1.5 HPLC Vials

Worldwide Sales & Support

KD Scientific is recognized worldwide for their technical expertise & high performance products with unmatched reliability. KD Scientific is committed to delivering the highest level of customer satisfaction, as well as technical support for all their products. Worldwide coverage to meet your individual needs • Factory trained distribution channels to help you solve your application problems • Largest selection of products to meet your demanding applications

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Please scan for more information about the Allegro™