
LOGAN

INSTRUMENTS CORP.

*smart solution.*

# Introducing LOGAN INSTRUMENTS CORP.

## THE VOICE FROM LOGAN INSTRUMENTS

Logan Instruments strives on 3 principles: **Quality**, **Innovation**, and **Service**.

These are the driving forces behind Logan Instruments, who designs, manufactures, and distributes equipment for tablet dissolution and transdermal testing worldwide. Producing the best products for the best prices is our goal.

Founded in 1990, Logan Instruments started with only a single product, the Media Delivery System (MDS-600). Over the years, Logan Instruments has grown over a 1000%, making massive gains in sales, product lines and facilities. With pharmaceutical equipment ranging from friability testers to fully automated dissolution testing systems, Logan Instruments has established a reputation for leadership and design excellence. This is why Logan Instruments is known for the most advanced products in the world.

**Quality** is a team effort. From design to production and distribution, Logan Instruments understands that quality must be at the highest level attainable. All of our employees are responsible for the product's quality and we focus on every detail. With the company's effort, Logan Instruments' products serve a world market and meet or exceed USP specifications. As a reliable company that competes in the global market, Logan Instruments concentrates on the responsibility for developing, instituting and maintaining quality standards.

**Innovation** is where Logan Instruments centers on the ideas and designs for the best laboratory instruments. As a leading company in dissolution design, we were the first company in the US to create and manufacture an 8-position dissolution tester. Always trying to accommodate our customer chemists, the Media Delivery System and Automated Vessel Cleaner save significant laboratory time and are only available through Logan Instruments. As transdermal and dissolution experts, we pride ourselves on our large-scale robotic transdermal testing equipment and our fully automated USP-7. Engineering transdermal and dissolution systems, Logan Instruments is always interested in learning about features that the pharmaceutical worker would like to see in the equipment, or even to help design and produce entirely new instruments to serve future research and manufacturing.

**Service** is Logan Instruments' unifying principle. Logan Instruments has always had a reputation of an extremely high level of service. Responsive, efficient, and friendly are the targets we aim for in our service department. Logan Instruments' service representatives have experience as designers and builders of the equipment being serviced. In addition, we are always looking for more ways to aid our customers. Our service engineers are open to customer feedback to help assist this process.

**Why the name Logan Instruments?**

Logan Instruments' moniker was coined after the movie classic, "Logan's Run." Within the film, Logan is continuously suppressed and held back from attaining his goal. In the end, Logan was able to reach his "Sanctuary." As immigrants, people deal with many hindrances in their growth to become triumphant in foreign lands. From the film, Logan Instruments is influenced by the determination and tenacity to overcome. Like the movie, Logan Instruments started out with obstacles in their way and through hard work and dedication, the company has experienced success. It is still just the beginning for them to achieve their "sanctuary."

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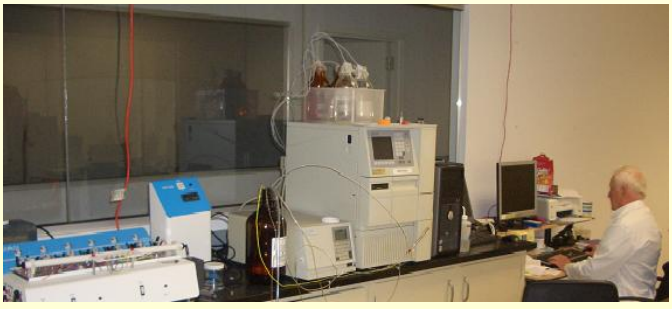
Logan Instruments Corp. Headquarters: Somerset, New Jersey USA

Production Engineers



Application Lab

Trade shows


Trade shows

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Made in the USA products

# LOGAN UDT-812 Universal Dissolution Testers

Logan UDT-812GS

- LCD touch screen for speed, temperature and time control
- Self-centering vessel design, self-calibrating speed and temperature control system
- Gas spring lift for fast motion, vertical lift to ensure the centering between shafts and vessels
- Positive grip chuck design & one piece molded water bath
- Space saving built-in heater circulator
- Height adjustable platform to seal water tank

Logan UDT-812A

- LCD touch screen for speed, temperature and time control
- Self-centering vessel design, self-calibrating speed and temperature control system
- Power lift for fast motion, vertical lift to ensure the centering between shafts and vessels
- Positive grip chuck design & one piece molded water bath
- Space saving built-in heater circulator
- Height adjustable platform to seal water tank

LOGAN UDT-812 Serious Dissolution Tester is the newest apparatus for dissolution testing required by USP. This 8-vessel dissolution tester is designed for easy operation and built to operate continuously. The two additional vessels can be used for blank, standard or media replacement. The built in heating circulator saves bench space.

Paddle and basket height are set electronically. The no-vibration and self-calibrating design ensures all tablets dissolve at the true speed and same temperature. The acid resistant ves sel plate and height adjustable platform seal the water tank to limit evaporation.

Several options are available with the UDT-812 Serious Dissolution Testers including manual sampling manifold to link the instrument with other instruments such as UV or HPLC systems or syringes for manual sampling, a tablet-dropping tray.

UDT-812 Serious Dissolution Testers performance exceed the requirements of USP, BP, E P and JP.

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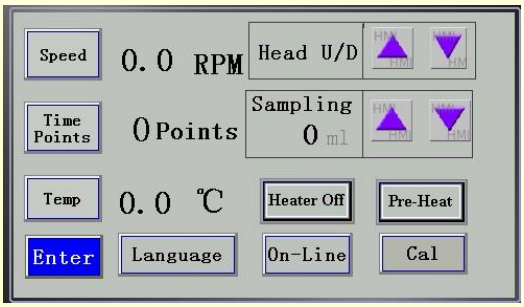
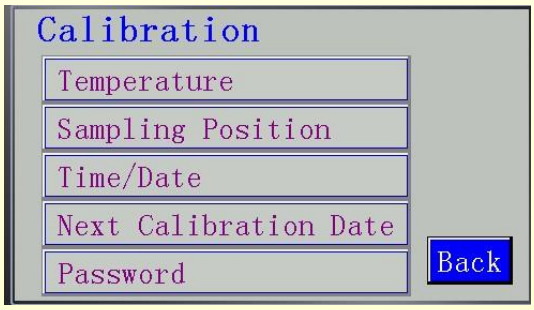
## UDT-812GS/UDT-812A Specification:

| | |
|---|---|
| Drive, vessel positions (active) | 8 |
| Speed range | 25–250RPM ±.5RPM |
| Temperature range | 25–45°C ±0.1°C |
| Shaft diameter | 3/8'' |
| Bath construction | Clear seamless acrylic |
| Water bath heater | 1000 Watts |
| Voltage | 110-120VAC, 50/60Hz<br>220-240VAC, 50/60Hz |
| Weight | 44 lbs. (20kg) |
| Size (L×W×H) | 16“×20”×22" |

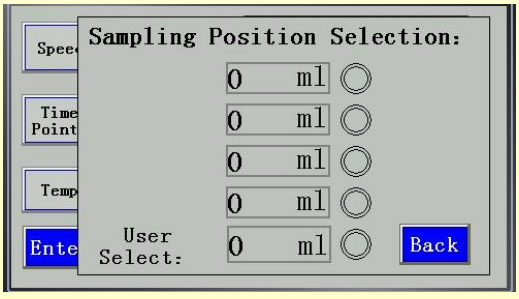
## User Interface:




**Manual Controls**




**Calibration**




**Sampling Position Setting**


**Password**

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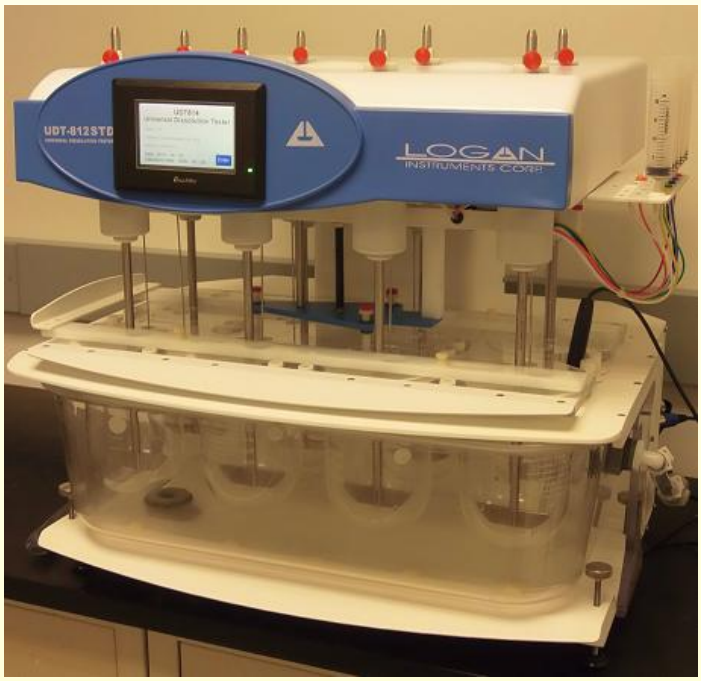
# LOGAN UDT-814 Universal Dissolution Testers




- LCD touch screen for speed, temperature and time control
- Self-centering vessel design, self-calibrating speed and temperature control system
- Power lift for automation, vertical lift to ensure the centering between shafts and vessels.
- Positive grip chuck design & One piece molded water bath
- Space saving built-in heater circulator
- Height adjustable platform to seal water tank
- Automation ready for online analysis with UV, HPLC and Fiber Optic systems

**The UDT-814 Automated Dissolution Tester is the newest apparatus for dissolution t esting required by USP. This 8-vessel dissolution tester is designed for easy operati on and built to operate continuously. There are 6 vessels for sampling; the two addit ional vessels can be used for blank, standard or media replacement.**
**The built in heating circulator saves bench space, electronic controls for sampling probe positions for different media volume sampling. Paddle and basket height are set electronically. The no-vibration and self-calibrating design ensures all tablets dissolve at the true speed and same temperature.**

**The acid resistant vessel plate and height adjustable platform seal the water tank to limit evaporation.**

**Several options are available with the UDT-814 including an automated sampling manifold to link the instrument with other instruments such as UV or HPLC systems or syringes for manual sampling, a tablet-dropping tray, a Control/Calibration/Validation Software package and an external printer.**

**UDT-814 performance exceeds the requirements of USP, BP, EP and JP.**

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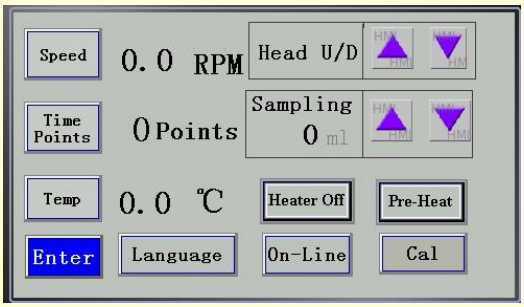
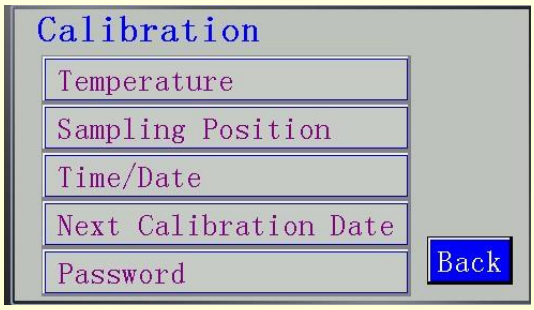
## UDT-814 Specification:

| | |
|---|---|
| Drive, vessel positions (active) | 8 |
| Speed range | 25–250RPM5±0.1RPM |
| Temperature range | 25–45°C ±0.1°C |
| Shaft diameter | 3/8'' |
| Bath construction | Clear seamless acrylic |
| Water bath heater | 1000 Watts |
| Voltage | 110-120VAC, 50/60Hz |
| | 220-240VAC, 50/60Hz |
| Weight | 44 lbs. (20kg) |
| Size (L×W×H) | 16“×20”×22" |

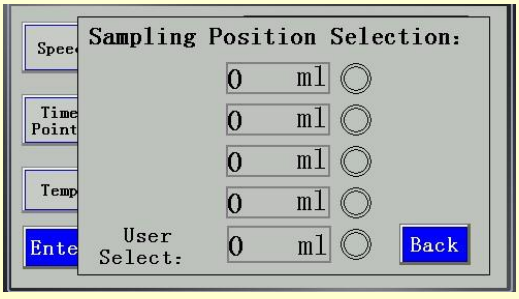
## User Interface:




**Manual Controls**




**Calibration**




**Sampling Position Setting**


**Password**

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# UDT-814-12+2 Universal Dissolution Tester


*Features:*

- **Large easy to read LCD display for Speed, Temperature and Time**
- **Self-centering vessel design and self-calibrating speed and temperature control system**
- **Electronic sampling height adjustment for paddle or basket at different media volumes**
- **12-Spindle with additional 2-positions for blank and standard configuration**
- **Password protection control**

## UDT-814-12+2 Universal Dissolution Tester

The UDT-814-12+2 Universal Dissolution Tester is the newest apparatus for 12 position dissolution testing. This 14-vessel dissolution tester (12 spindles + 2 vessels) is designed for easy operation and built to operate continuously. The two additional (optional) vessels can be used for blank, standard or media replacement.

The heating circulator comes with a special safety feature. The automatic safety shut-off switch shuts off the system when the temperature is over the preset safety limit and auto resets the system after the temperature goes below the limit. The shafts for the paddles and baskets are interchangeable, which makes it easier to change test methods.

The height adjustment for paddles and baskets are set electronically. USP calibration Balls are provided for height validation. The vessel plate is made of a new acid resistant material. The no-vibration design combined with speed/temperature self-calibration ensures all tablets dissolve at the same speed and temperature. An additional VTC-100 heater circulator is added to the UDT-814-12+2 to speed up the heating time.

Several options are available with the UDT-814-12+2 including an automated sampling manifold to link the unit with other instruments such as automated sampling systems or a syringe manifold for easy manual sampling. Other options are a tablet-dropping tray and an external printer.

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## Specifications

Drive, vessel positions (active)..... 12
Additional Vessels.....2 × 300 ML
Speed range .....25 – 250 rpm ± 0.5 rpm
Temperature range.....25 – 45°C ± 0.1°C
Shaft diameter .....3/8''
Bath construction.....Clear seamless acrylic
Water bath heater.....1000 watts
Voltage.....110 - 120 VAC, 50/60 Hz
220 - 240 VAC, 50/60 Hz
Weight.....44 lbs. (20 kg)
Size (L×W×H).....16" × 20" × 22"

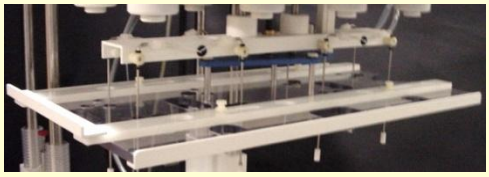
**The complete system includes:**

| Part # | Qty | Description |
|---|---|---|
| 800-1100 | 1 ea | Power lift drive with built in heater circulator |
| VTC-100 | 1 ea | External Water Heater |

**Options**

| Part # | Description |
|---|---|
| | Automated Sampling Manifold |
| | Tablet-Dropping Tray |
| | Syringe Manifold |
| | External Printer |

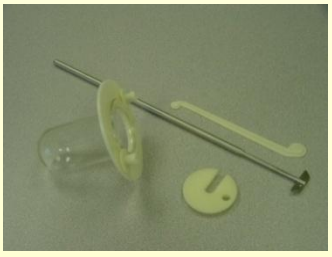
## UDT-814-12+2 Options:



**Automated Sampling Manifold**

**Automated Dropping Tray**


**Syringe Manifold**



**Mini Vessel Kit**

## Warranty

**Full 1-year standard warranty on complete system**

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# UDT-814-2L Universal Dissolution Tester


*Features:*

- **Large easy to read LCD display for Speed, Temperature and Time**
- **Self-centering vessel design and self-calibrating speed and temperature control system**
- **Electronic sampling height adjustment for paddle or basket at different media volumes**
- **8-Spindles, 6 for samples and 2-positions for blank & standard configuration**
- **Password protection control**

## UDT-814-2L Universal Dissolution Tester

The UDT-814-2L Universal Dissolution Tester is the newest apparatus for 2 liter dissolution testing. This 8-vessel dissolution tester is designed for easy operation and built to operate continuously. The two additional vessels can be used for blank, standard or media replacement.

The built in heating circulator comes with a special safety feature. The automatic safety shut-off switch shuts off the system when the temperature is over the preset safety limit and auto resets the system after the temperature goes below the limit. The shafts for the paddle and basket are interchangeable, which makes it easier to change the test methods.

The height adjustment for the paddle and basket are set electronically. USP calibration balls are provided for height validation. The vessel plate is made of a new acid resistant material. The no-vibration design combined with speed/temperature self-calibration ensures all tablets dissolve at the same speed and temperature.

Several options are available with the UDT-814-2L including an automated sampling manifold to link the unit with other instruments such as an automated sampling system or a syringe manifold for easy manual sampling. Other options are a tablet-dropping tray and an external printer.

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## Specifications

Drive, vessel positions (active)..... 8
Speed range.....25 – 250 rpm ± 0.5 rpm
Temperature range.....25 – 45°C ± 0.1°C
Shaft diameter.....3/8''
Bath construction.....Clear seamless acrylic
Water bath heater.....1000 watts
Voltage.....110 - 120 VAC, 50/60 Hz
220 - 240 VAC, 50/60 Hz
Weight.....44 lbs. (20 kg)
Size (L×W×H).....16" × 20" × 22"

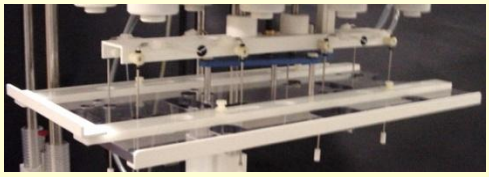
**The complete system includes:**

| Part # | Qty | Description |
|---|---|---|
| 800-1100 | 1 ea | Power lift drive with built in heater circulator |
| VTC-100 | 1 ea | External Water Heater |

**Options**

| Part # | Description |
|---|---|
| | Automated Sampling Manifold |
| | Tablet-Dropping Tray |
| | Syringe Manifold |
| | External Printer |

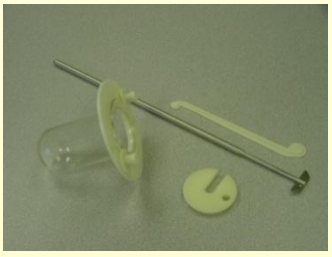
## UDT-814-2L Options:



**Automated Sampling Manifold**

**Automated Dropping Tray**


**Syringe Manifold**



**Mini Vessel Kit**

## Warranty

**Full 1-year standard warranty on complete system**

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**Somerset New Jersey 08873 USA**

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# UDT-814-4L Universal Dissolution Tester


*Features:*

- **Large easy to read LCD display for Speed, Temperature and Time**
- **Self-centering vessel design and self-calibrating speed and temperature control system**
- **Electronic sampling height adjustment for paddle or basket at different media volumes**
- **6-Spindle configuration**
- **Password protection control**

## UDT-814-4L Universal Dissolution Tester

The UDT-804-4L Universal Dissolution Tester is the newest apparatus for 4 liter dissolution testing. This 6-vessel dissolution tester is designed for easy operation and built to operate continuously.

The built in heating circulator saves bench space, and comes with a special safety feature. The automatic safety shut-off switch shuts off the system when the temperature is over the preset safety limit and auto resets the system after the temperature goes below the limit.

The shafts for the paddle and basket are interchangeable, which makes it easier to change the test methods. The height adjustment for the paddle and basket are set electronically. USP calibration balls are provided for height validation. The vessel plate is made of a new acid resistant material. The no-vibration design combined with speed/temperature self-calibration ensures all tablets dissolve at the same speed and temperature.

Several options are available with the UDT-804-4L including an automated sampling manifold to link the unit with other instruments such as automated sampling systems or a syringe manifold for easy manual sampling. Other options are a tablet-dropping tray and an external printer.

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## Specifications

Drive, vessel positions (active)..... 6
Speed range.....25 – 250 rpm ± 0.5 rpm
Temperature range.....25 – 45°C ± 0.1°C
Shaft diameter.....3/8''
Bath construction.....Clear seamless acrylic
Water bath heater.....1000 watts
Voltage.....110 - 120 VAC, 50/60 Hz
220 - 240 VAC, 50/60 Hz
Weight.....44 lbs. (20 kg)
Size (L×W×H).....16” × 20” × 22"

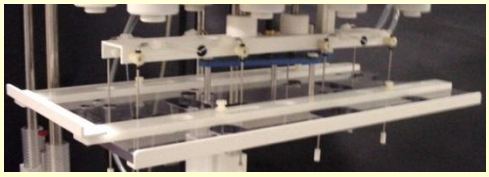
**The complete system includes:**

| Part # | Qty | Description |
|---|---|---|
| 800-1100 | 1 ea | Power lift drive with built in heater circulator |
| VTC-100 | 1 ea | External Water Heater |

**Options**

| Part # | Description |
|---|---|
| | Automated Sampling Manifold |
| | Tablet-Dropping Tray |
| | Syringe Manifold |
| | External Printer |

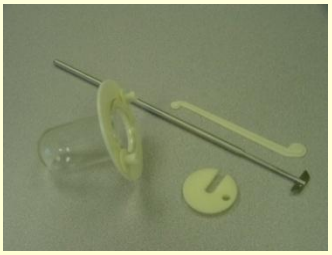
## UDT-814-4L Options:



**Automated Sampling Manifold**

**Automated Dropping Tray**


**Syringe Manifold**



**1000 ML Vessel Kit**

## Warranty

**Full 1-year standard warranty on complete system**

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# UDT-814D-12 AIRBATH Dissolution Tester


*Features:*

- **Large easy to read LCD display for Speed, Temperature and Time**
- **Self-centering vessel design and self-calibrating speed and temperature control system**
- **Electronic sampling height adjustment for paddle or basket at different media volumes**
- **12-Spindle with additional 2-positions for blank and standard configuration**
- **Password protection control**

## UDT-814D-12 AIRBATH Dissolution Tester

The UDT-814D-12 AIRBATH Dissolution Tester is the newest apparatus for 12 position dissolution testing. This 12-vessel dissolution tester is designed for easy operation and built to operate continuously. The two additional (optional) vessels can be used for blank, standard or media replacement.

Not like the traditional water bath, the UDT-814D is directly heated by AIRBATH with a special safety feature. The automatic safety shut-off switch shuts off the system when the temperature is over the preset safety limit and auto resets the system after the temperature goes above the limit. The shafts for the paddles and baskets are interchangeable, which makes it easier to change test methods.

The height adjustment for paddles and baskets are set electronically. USP calibration Balls are provided for height validation. The vessel plate is made of a new acid resistant material. The no-vibration design combined with speed/temperature self-calibration ensures all tablets dissolve at the same speed and temperature. An additional VTC-100 heater circulator is added to the UDT-814D-12 to speed up the heating time.

Several options are available with the UDT-814D-12 including an automated sampling manifold to link the unit with other instruments such as automated sampling systems or a syringe manifold for easy manual sampling. Other options are a tablet-dropping tray and an external printer.

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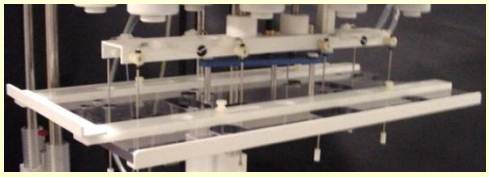
## Specifications

Drive, vessel positions (active)..... 12
Additional Vessels.....2 × 300 ML
Speed range .....25 – 250 rpm ± .5 rpm
Temperature range.....25 – 45°C ± 0.1°C
Shaft diameter .....3/8''
AIRBATH heater.....1000 watts
Voltage.....110 - 120 VAC, 50/60 Hz
220 - 240 VAC, 50/60 Hz
Weight.....44 lbs. (20 kg)
Size (L×W×H).....16" × 20" × 22"

**Options**

| Part # | Description |
|---|---|
| | Automated Sampling Manifold |
| | Tablet-Dropping Tray |
| | Syringe Manifold |
| | External Printer |

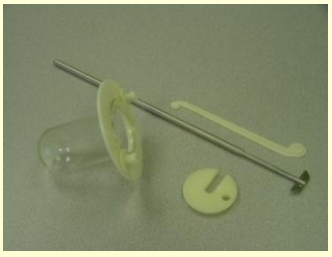
## UDT-814-12 Options:



**Automated Sampling Manifold**

**Automated Dropping Tray**


**Syringe Manifold**



**Mini Vessel Kit**

## Warranty

**Full 1-year standard warranty on complete system**

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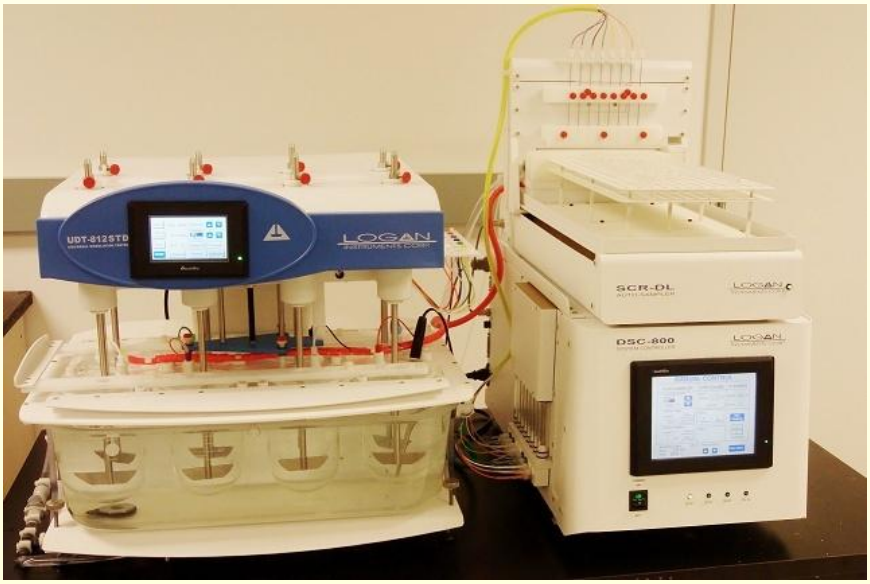
# LOGAN SYSTEM 850BDL Automated Dissolution Sampling Systems




## *Features:*

- **Control 1 or 2 baths up to 20 sampling time points**
- **Stand alone controller, not subject to 21 CFR 11**
- **Syringe pump sampling system accuracy to ±1%**
- **Full sample recycling with no waste**
- **Printer for full report**

The Logan System 850BDL Automated Dissolution Sampling System is a modularly designed system for auto mated dissolution sampling. The integral UDT-814 Dissolution Tester can be configured with a drive system co mprising six, seven or eight sampling vessels and spindles. It is used for dissolution testing of a variety of phar maceutical products including tablets, capsules, and transdermal patches. The UDT-814 can be used in severa l configurations that satisfy USP criteria, e.g. rotating baskets (USP I) or paddles (USP II), paddles over disk (U SP V) or rotating cylinders for transdermal applications (USP VI). The UDT-814 is supplied with a built-in heate r/circulator. The heater can be controlled locally by the UDT-814.

The Tablet Dropping Tray accessory automates the process of tablet dropping. It drops the tablets simultaneously, thereby marking the beginning of each test with far greater precision than manual techniques allow. This feature ensures compliance with regulatory requirements. Temperature readings can be taken before, after, and periodically during a run to ensure compliance throughout the test. The automated sampling manifold can be controlled to lower the probes into the vessels. The samples may also be filtered through a membrane or other filters. At each sampling point, the syringe pump takes samples from the vessels and flushes out the sampling lines. After flushing the line, the samples return to the same vessels. This system does not send any sample to waste. The time, speed and temperature will be recorded at the beginning of each test as well as when samples are being taken.

The SYP-8L Syringe Pump module is built-in with the DSC-800 System Controller, which saves lab bench space. The SYP-8L withdraws samples to rinse the line right before each time interval, individual samples are dispensed simultaneously into collection tubes or vials in the SCR-160L Sample Collector. After collecting the samples, SYP-8L does the media replacement, back flushes the filters, and purges all the sampling lines. The auto-cleaning begins right after the dissolution test is completed. The SYP-8L Syringe Pump switches to the washer reservoir to start it's cleaning cycles.

DSC-800D System Controller permits quick and easy programming of all parameters and gives the user total flexibility in the use of up to 2 systems simultaneously. Each system can be programmed to control all dissolution parameters, all test method are printed by provided printer.

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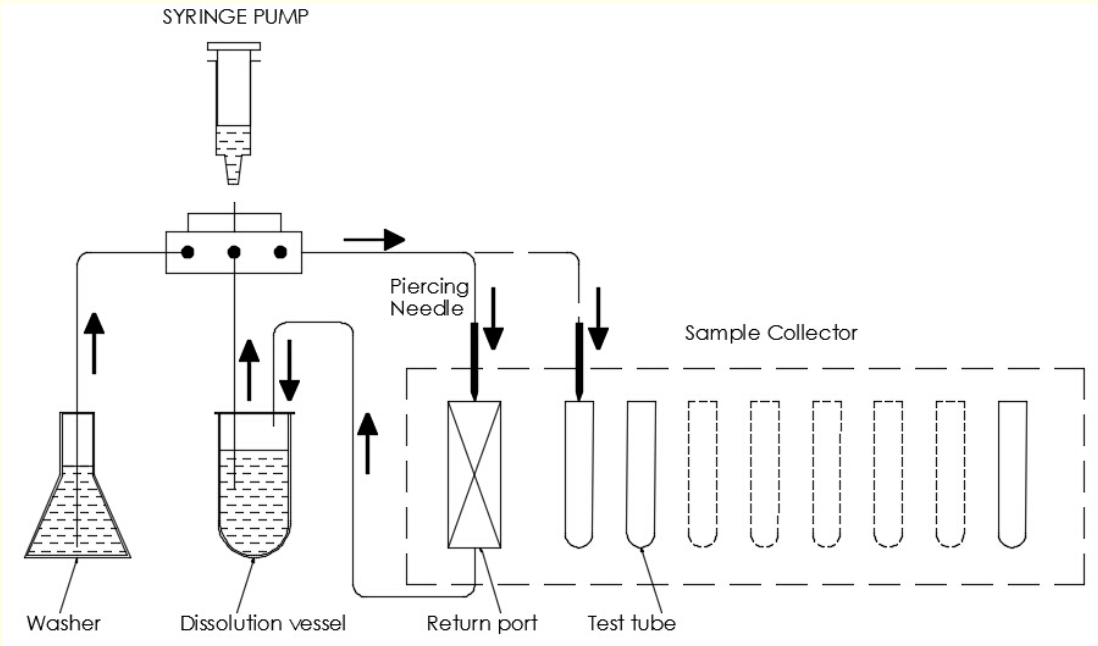
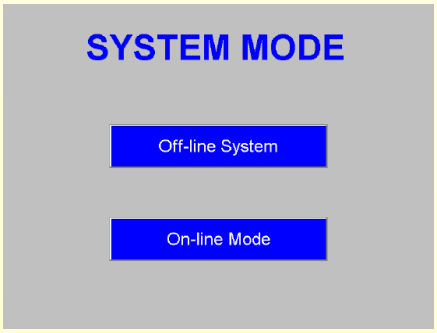
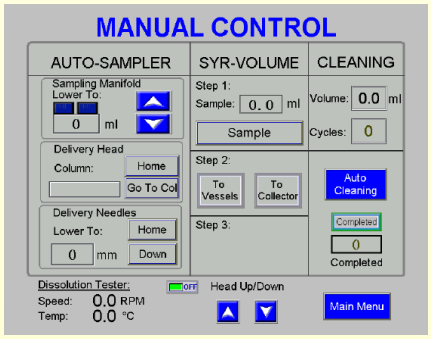
LOGAN INSTRUMENTS CORP.



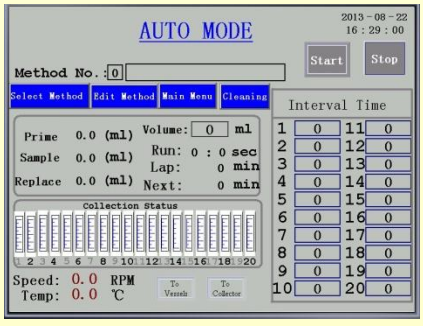

## SAMPLING DIAGRAM



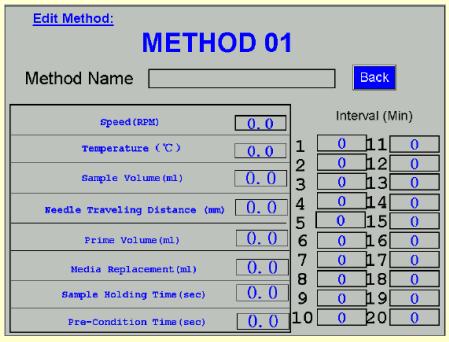

ON-Line / Off-Line selection




Auto-Cleaning Program




Auto Mode




Select / Edit Methods

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# LOGAN SYSTEM 860BDL Automated Dissolution Sampling Systems

## *Features:*

- **Control 1 or 2 baths up to 20 sampling time points**
- **Stand alone controller, not subject to 21 CFR 11**
- **Syringe pump sampling system accuracy to ±1%**
- **Full sample recycling with no waste**
- **Printer for full report**

The Logan System 860BDL Automated Dissolution Sampling System is a modularly designed system for auto mated dissolution sampling. The integral UDT-814-12 Dissolution Tester can be configured with a drive system comprising 12 sampling vessels and spindles. It is used for dissolution testing of a variety of pharmaceutical products including tablets, capsules, and transdermal patches. The UDT-814-12 can be used in several configurations that satisfy USP criteria, e.g. rotating baskets (USP I) or paddles (USP II), paddles over disk (US P V) or rotating cylinders for transdermal applications (USP VI). The UDT-814-12 is supplied with a built-in heater/circulator. The heater can be controlled locally by the UDT-814-12.

The Tablet Dropping Tray accessory automates the process of tablet dropping. It drops the tablets simultaneously, thereby marking the beginning of each test with far greater precision than manual techniques allow. This feature ensures compliance with regulatory requirements. Temperature readings can be taken before, after, and periodically during a run to ensure compliance throughout the test. The automated sampling manifold can be controlled to lower the probes into the vessels. The samples may also be filtered through a membrane or other filters. At each sampling point, the syringe pump takes samples from the vessels and flushes out the sampling lines. After flushing the line, the samples return to the same vessels. This system does not send any sample to waste. The time, speed and temperature will be recorded at the beginning of each test as well as when samples are being taken.

The SYP-8L Syringe Pump module is built-in with the DSC-800 System Controller, which saves lab bench space. The SYP-8L withdraws samples to rinse the line right before each time interval, individual samples are dispensed simultaneously into collection tubes or vials in the SCR-160L Sample Collector. After collecting the samples, SYP-8L does the media replacement, back flushes the filters, and purges all the sampling lines. The auto-cleaning begins right after the dissolution test is completed. The SYP-8L Syringe Pump switches to the washer reservoir to start it's cleaning cycles.

DSC-800D System Controller permits quick and easy programming of all parameters and gives the user total flexibility in the use of up to 2 systems simultaneously. Each system can be programmed to control all dissolution parameters, all test method are printed by provided printer.

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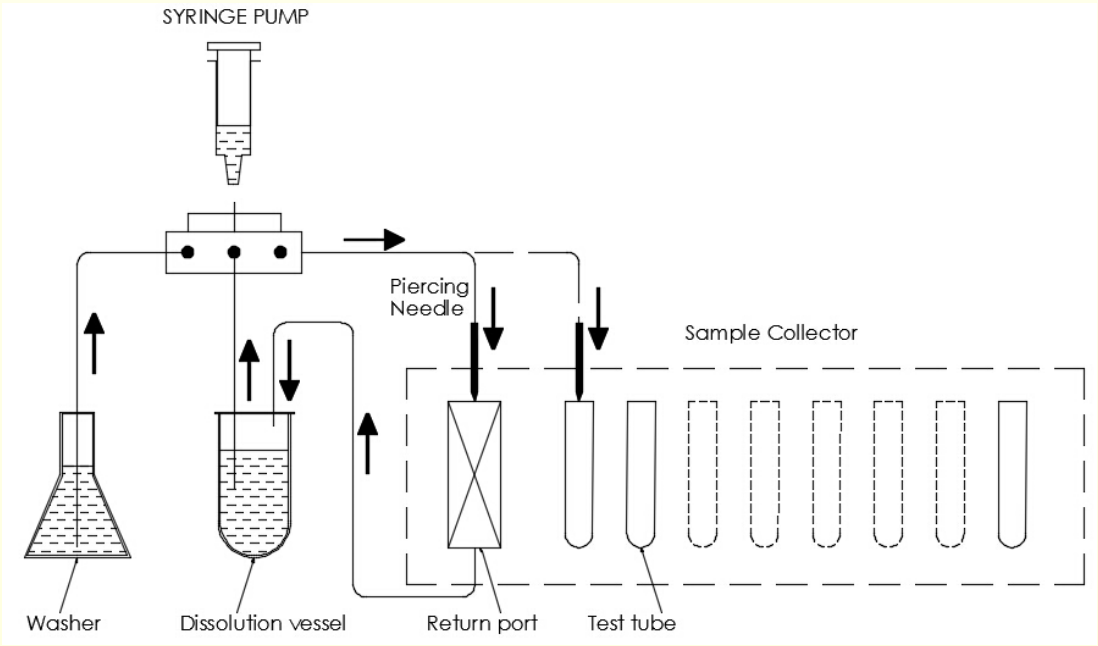
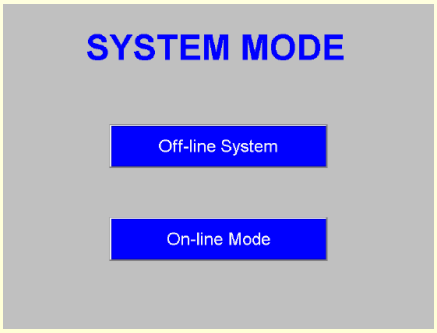
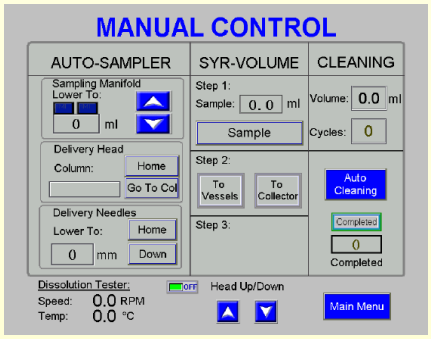


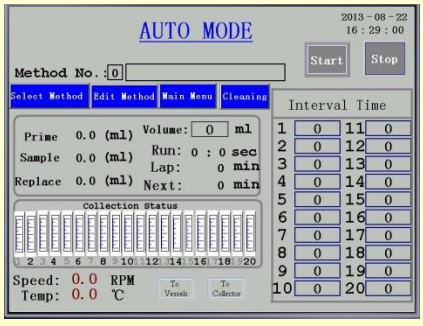

## SAMPLING DIAGRAM



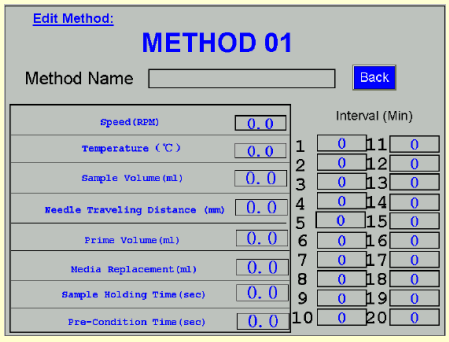

ON-Line / Off-Line selection




Auto-Cleaning Program




Auto Mode




Select / Edit Methods

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# LOGAN SYSTEM 860CDL Automated Dissolution Sampling Systems

## *Features:*

- **Three speed zones for 3 groups of 4 spindles, each zone may have different speeds**
- **In shaft cameras to record the sample dissolving in baskets**

The Logan System 860CDL Automated Dissolution Testing & Sampling System with cameras is a modularly designed dissolution testing & sampling system. The integral UDT-816C-12 Dissolution Tester can be configured with 3 speed control zones, comprising of 12 vessels and spindles. It can be operated at one speed for all 12 spindles, or 2 speed zones for 8 spindles and 4 spindles, or 3 speed zones for 3 groups of 4 spindles. The 2 and 3 zone speeds may be different. UDT-816C-12 has 12 cameras under the vessels, allowing one to visualize and record how the tablets are dissolving. For USP I method, the camera is inserted into the basket shaft allowing one to see how tablets are dissolving in each basket. This system is used for dissolution testing of a variety of pharmaceutical products including tablets and capsules. This new unique design with varying speeds during the same run provides an invaluable tool for R&D.

The Tablet Dropping Tray automates the process of tablet dropping. It drops the tablets simultaneously, thereby marking the beginning of each test with far greater precision than the manual method. The automated sampling manifold can be controlled to lower itself into the vessels during sampling. At each sampling point, the syringe pump takes samples from the vessels and flushes out the sampling lines. After flushing the lines, the samples return to the same vessels. This system does not send any samples to waste. The time, speed and temperature will be recorded at the beginning of each test as well as when samples are being taken.

The LOGAN SYSTEM 860CDL is designed to save valuable time by delivering precise volumes automatically and reducing the need for analyst intervention, the camera system records the sample dissolution that brings the physical and chemical aspects together. The Logan SYSTEM 860CDL includes two SYP-6L-10ML Syringe Pump modules that is built-in with the DSC-800 System Controller and auto-sampler. This combination saves lab bench space. The SYP-6L-10ML withdraws samples to rinse the lines just before each time interval. Individual samples are dispensed simultaneously into collection tubes or vials in the SCR-DL Sample Collector module. After collecting the samples, SYP-6L-10ML replaces the media, back flushes the filters, and purges all the sampling lines.

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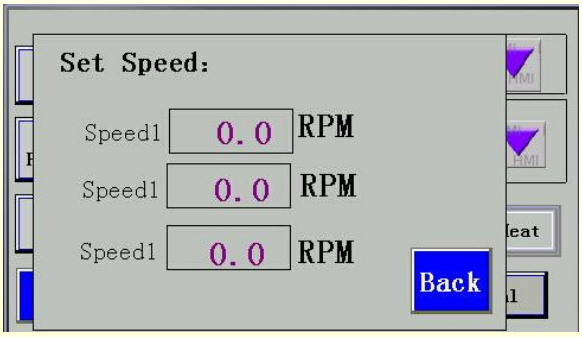
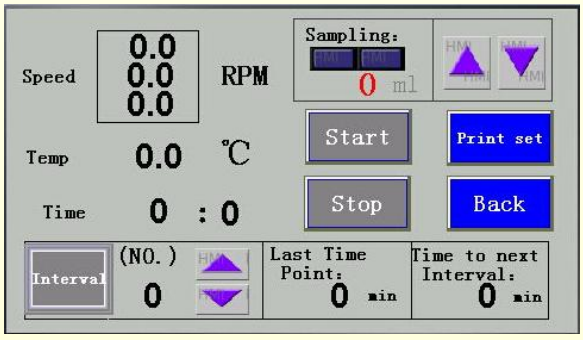
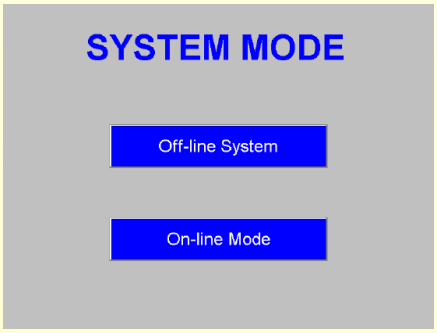
**Camera inside the basket shaft**



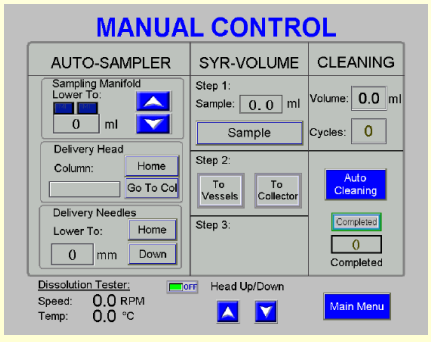

**3 speed zones setting**




**Control interfsce**




**ON-Line / Off-Line selection**




**Auto-Cleaning Program**

**Basket Camera Footage**

**Paddle Camera Footage**

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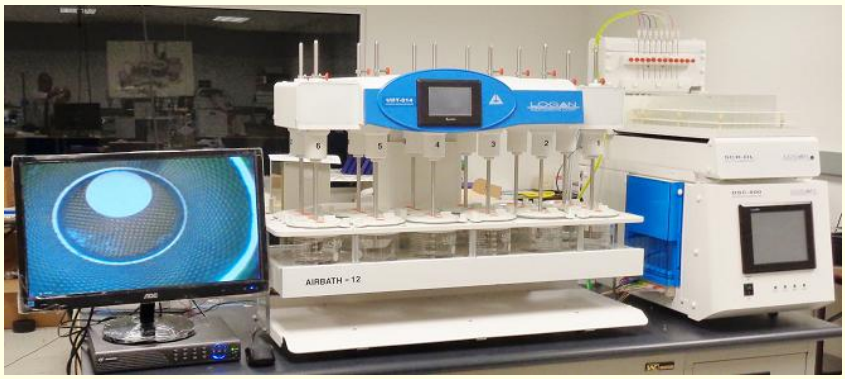
# LOGAN SYSTEM 860D-12CDL
# Automated AIRBATH Dissolution Sampling Systems




## *Features:*

- **Three speed zones for 3 groups of 4 spindles, each zone may have different speeds**
- **In shaft cameras to record the sample dissolving in baskets**

The Logan System 860D-12CDL Automated Dissolution Testing & Sampling System with cameras is a modularly designed dissolution testing & sampling system. The integral UDT-816 D-12 AIRBATH Dissolution Tester can be configured with 3 speed control zones, comprising o f 12 vessels and spindles. It can be operated at one speed for all 12 spindles, or 2 speed zone s for 8 spindles and 4 spindles, or 3 speed zones for 3 groups of 4 spindles. The 2 and 3 zone speeds may be different. UDT-816D-12 has 12 cameras under the vessels, allowing one to visualize and record how the tablets are dissolving. For USP I method, the camera is inserted into the basket shaft allowing one to see how tablets are dissolving in each basket. This system is used for dissolution testing of a variety of pharmaceutical products including tablets and capsules. This new unique design with varying speeds during the same run provides an invaluable tool for R&D.

The Tablet Dropping Tray automates the process of tablet dropping. It drops the tablets simultaneously, thereby marking the beginning of each test with far greater precision than the manual method. The automated sampling manifold can be controlled to lower itself into the vessels during sampling. At each sampling point, the syringe pump takes samples from the vessels and flushes out the sampling lines. After flushing the lines, the samples return to the same vessels. This system does not send any samples to waste. The time, speed and temperature will be recorded at the beginning of each test as well as when samples are being taken.

The LOGAN SYSTEM 860D-12CDL is designed to save valuable time by delivering precise volumes automatically and reducing the need for analyst intervention, the camera system records the sample dissolution that brings the physical and chemical aspects together. The Logan SYSTEM 860D-12CDL includes two SYP-6L-10ML Syringe Pump modules that is built-in with the DSC-800 System Controller and auto-sampler. This combination saves lab bench space. The SYP-6L-10ML withdraws samples to rinse the lines just before each time interval. Individual samples are dispensed simultaneously into collection tubes or vials in the SCR-DL Sample Collector module. After collecting the samples, SYP-6L-10ML replaces the media, back flushes the filters, and purges all the sampling lines.

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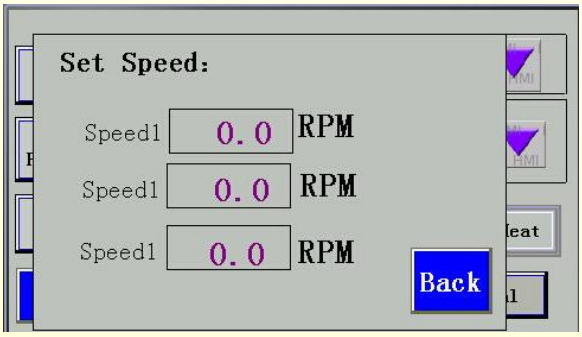
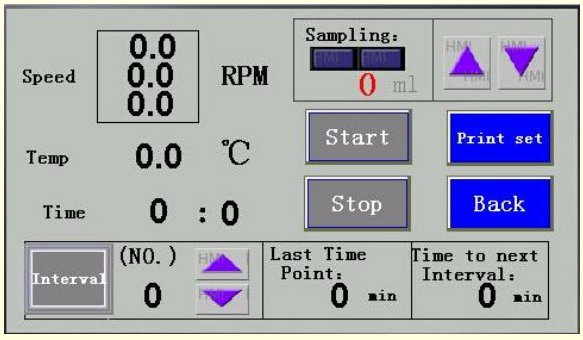
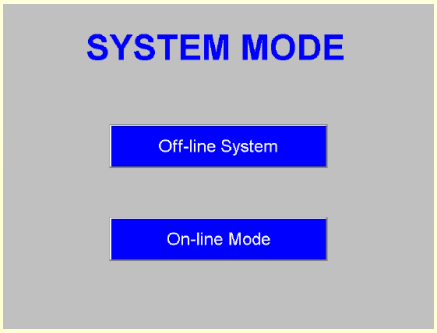
**Camera inside the basket shaft**



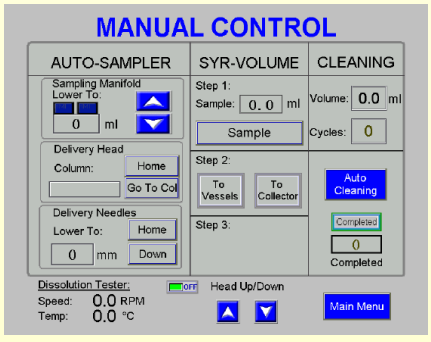

**3 speed zones setting**




**Control interfsce**




**ON-Line / Off-Line selection**




**Auto-Cleaning Program**

**Basket Camera Footage**

**Paddle Camera Footage**

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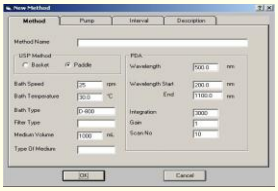
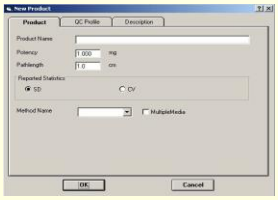
# Automated Dissolution UV System with Shimadzu UV 1800 & 8 Cell Changer UV-Vis Spectrophotometer

Method

Sample

Bath Control



Product

## LOGAN Automated Dissolution UV System

### LOGAN SYSTEM 800S

**Automated Dissolution UV System is for dissolution testing required by USP. This system performs with total automation of the dissolution testing, controlled by a PC and the Logan Automated Dissolution UV software program (ADUV).**

**The complete system consists of:**

a) **Logan Automated 8-Position Dissolution Tester**
b) **Shimadzu UV-1800 UV-Vis spectrophotometer with 8 position cell changer**
c) **An 8-Channel peristaltic pump to move samples from vessel to flow-cell and back to vessel.**
d) **PC and Automated Dissolution UV Software Program.**

In use the tablets are pre-loaded on the auto-dropping tray. The graphical display of the ADUV prompts the user to drop the samples into the vessels simultaneously. The ADUV program then takes control of the dissolution testing for the entire test run. The **absorbency , % dissolved** is displayed at every sampling interval. When the test is over, shaft rotation automatically stops and the complete and comprehensive dissolution report s presented.

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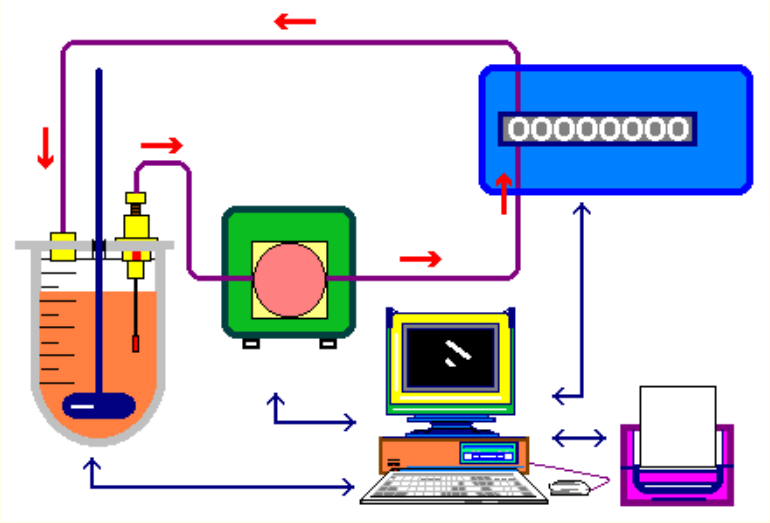
## Automated Dissolution UV Close Loop System Diagram




**SP-100 Peristaltic Pump**


**Quartz Flow-cells**

## Automated Dissolution UV partslist:

±

| | |
|---|---|
| UDT-804-8 | Universal Dissolution Tester |
| 800-0124 | 1000 ml Glass Vessel |
| SP-100 | Peristaltic Pump |
| 800-0059 | SS 316 Paddle Blade |
| 802-8004 | 40 Mesh Basket Ass'y |
| 802-0176 | Vessel Cover Hinge Type |
| 800-0911 | 250 ml mini Vessel |
| 800-0912 | Mini Vessel cover |
| 800-0914 | Mini Paddle |
| 800-0147 | 1000 ml Amber Vessel |
| 050-0004 | Prednisone - Standard (250 mg) |
| 050-0005 | Prednisone Tablets (30 tablets) |
| 800-0178 | Auto-Sampling Manifold Ass'y |
| 800-0148 | Cage Sinker |
| 200-8001 | Sampling Tubing & Return Tubing |
| QFC-005 | Quartz Flowcell (0.5mm) Ass'y |
| QFC-01 | Quartz Flowcell (1 mm) Ass'y |
| QFC-10 | Quartz Flowcell (10mm ) Ass'y |
| Shimadzu 8 Cell Changer | Shimadzu 8 Cell Changer |
| ADUV-S & PC | LOGAN Automated Dissolution UV Software Package & PC |

**Warranty**

**Full 1-year standard warranty on complete system & Shimadzu standard warranty on the spectrograph**

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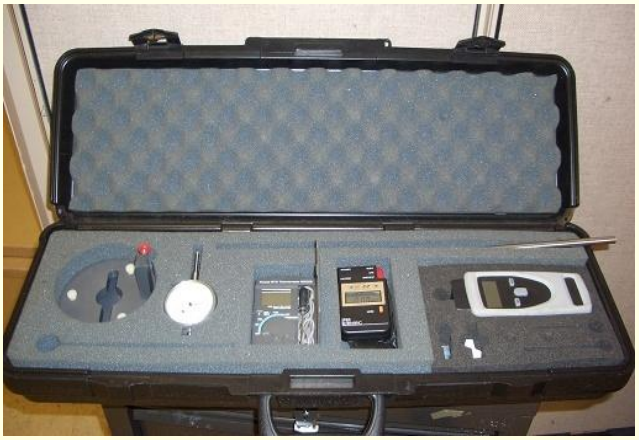
**Logan Instruments Corp. 19-C Schoolhouse Rd,**

**Somerset New Jersey 08873 USA**

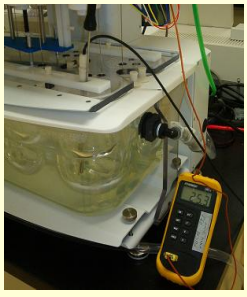
www.loganinstruments.com **Email: info@loganinstruments.com TEL: 732 302 9888**

# LOGAN CAL-600 Calibration Tool Set



010-2210 Level
010-2211 Timer
010-2212 Tachometer w/ Certification
010-2213 Wobble Gauge w/ Compliance
010-2214 Thermometer w/ Certification
010-2215 Centering shaft w/ Certification
010-2216 Centering Plug w/ Certification
010-2217 Height calibration ball
033-0015 Plastic height gauge
To meet new USP Calibation tools
806-0500 Quad Gauge
802-2532 Digital Leveler
805-0500 Depth Measurement Device

## LOGAN CAL-600 Dissolution Calibration Tool Set



## Speed and Temperature Validation Tool Sets

## Wobbling and Centering Validation Tool Sets

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# LOGAN CAL-600 Calibration Tool Set

## Height Adjustment Validation Tool Set

## Center Distance Validation Tool Set

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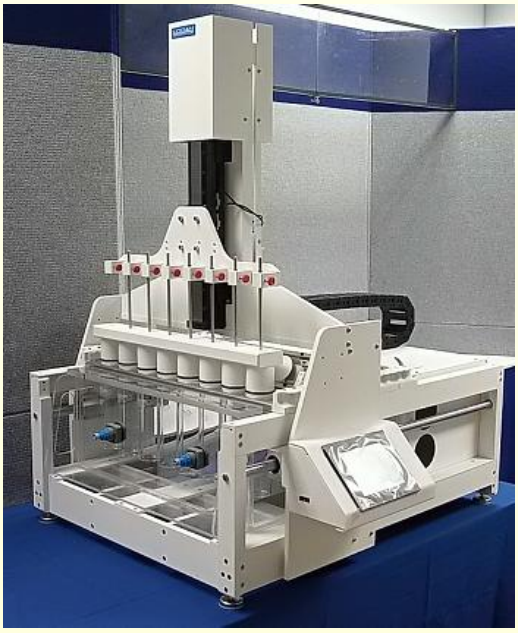
# LOGAN DISSO III-7 Release Rate Tester



***Features:***

- **USP 3 and USP 7 on one unit**
- **Switch USP 3 and USP 7 by one button**
- **Removable sample rack for non stopping tests**
- **No Evaporation Top Covers**
- **PASSWORD protection**
- **Large color touch screen display**

## LOGAN DISSO III-7 Release Rate Tester

The DISSO III-7 Release Rate Tester is Logan Instrument Corporation's newest apparatus for USP Methods 3 & 7 dissolution testing. This easy-to-operate (8-tubes per row x 6 rows) dissolution tester utilizes the most modern technology and is designed to operate trouble - free and continuously. Two additional tubes in each row facilitate the running of a blank and standard concurrently with the samples. The built-in heater-circulator is designed to save bench space and is directly controlled by the DISSO III-7.

The DISSO III-7 is equipped with adjustable stroke length control; the users are able to set to the program to run either as USP 3 or USP 7. Some of the USP 7 methods are tested in the 50 ml test tubes; the user can order the additional 12 position sample holders/hangers and 12 position tube holders to run 12 samples in each row. By exchanging the DIP RACK and TUBE CARRIERS, the USP 3 and USP 7 tests can be switched easily.

The DISSO III-7 performance exceeds the requirements of USP specification. The NO - EVAPO cover design seals all outer tubes to limit the evaporation and ensure all tablets are dissolved at the proper dip speed and same temperature. Each DISSO III-7 is supplied with a serial RS-232 communication port; options include the sampling manifold. The DISSO III - 7 can be automated by adding Logan DSC-37 System Controller/ Logan SYP-8L Syringe Pump and Logan SCR-160 Sampler Collector. Pease contact Logan Instruments for more information.

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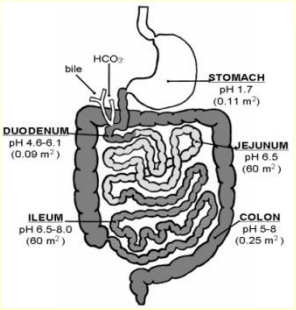
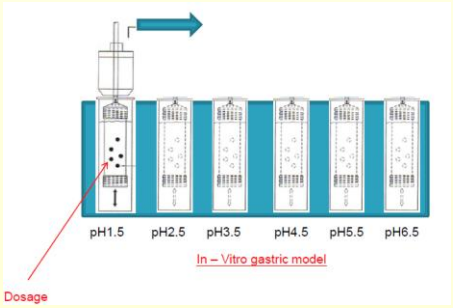
19C School House Rd. Somerset, NJ 08873 USA • Tel: (732) 302-9888 • Fax: (732) 302-9898 • E-mail: info@loganinstruments.com

## Specifications

| | USP 3 | USP 7 |
|---|---|---|
| Sample Amount: | Up to 8 Samples/Row | Up to 12 Samples/Row |
| Vessel Position: | Up to 6 Rows and 8 Positions per Row | Up to 12 Rows and 12 Positions per Row |
| Dip Speed Control: | 4~50 Dip per Minute, Accuracy ±0.5 DPM | 4~50 Dip per Minute, Accuracy ±0.5 DPM |
| Dip Stroke: | 10 mm | 2-4 mm |
| Temp. Control: | 25-45° C, Accuracy ±0.1° C | 25-45° C, Accuracy ±0.1° C |
| Shaft Size: | 1/4" DIA | 1/8" DIA |
| Water Bath: | Plastic Construction | Plastic Construction |
| Heater Circulator: | 1400 w/ Dual Heat System | 1400 w/ Dual Heat System |
| Size: | 25" W x 30" D x 27" H<br>63.5 x 76.2 x 68.6 cm | 25" W x 30" D x 27" H<br>63.5 x 76.2 x 68.6 cm |
| Weight: | 120 lb., 55kg | 120 lb., 55kg |
| Voltage: | 110-120V 50-60 Hz / 220-240 V 50/60 HZ | 110-120V 50-60 Hz / 220-240V 50-60 Hz |

## For USP 3 Tests:



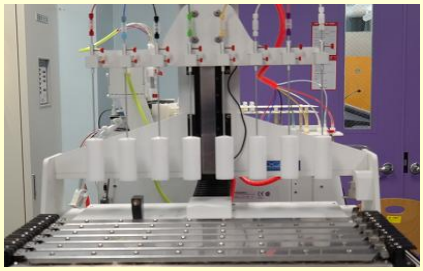




**Dosage releases in different pH as in human gastrointestinal**

**Inline sampling**

**Outer Tube Carrier W/ Individual Cover**

## For USP 7 Tests:



**USP 7 Sampler Holders**

## Warranty

**Full 1-year standard warranty on complete system**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**Somerset New Jersey 08873 USA**

# Automated ADR III-7 Sampling System

***Features:***

- **App 3 and App 7 on one unit**
- **Switch App 3 and App 7 by one button**
- **Syringe Pump sampling**
- **No Evaporation Top Covers**
- **PASSWORD protection**
- **Large color touch screen display**

## Automated ADR III-7 Sampling System

The Logan ADR III-7 is included DISSO III-7 / SYP Syringe pumps / SCT Sample collector and DSC-800 System controller . The users can set the program to run either as App 3 or App 7. Some of the App 7 methods are tested in 50 ml test tubes; the user can order additional 8 or 12 position sample holders/hangers and 8 or 12 position tube holders to run 8 or 12 samples in each row. By exchanging the Dip Rack and Tube Carriers, the App 3 and App 7 tests can be switched easily.

In operation, the solid dosage samples (pellets, tablets, etc) are placed in the inner tubes (for App 3) or sample holders (for App 7), after the samples are loaded into the sample holder, the shaft assembly automatically lines up with the glass tubes directly below and contains media. The water bath temperature is controlled to a target set point +/- 0.1°C throughout the bath, and the media is preheated in sealed outer tubes. The seal covers automatically open when the dissolution is started; the dip speed, stroke length, dip time, hold time, drain time, and temperature are controlled by the unit's microprocessor.

The ADR III-7 performance exceeds the requirements of USP specification. The NO-EVAPO cover design seals all outer tubes to limit the evaporation and ensures that all tablets are dissolved at the proper dip speed and same temperature. Each Disso III-7 is supplied with a serial RS-485 communication port; options include a sampling manifold. Please contact Loga n Instruments for more
information.

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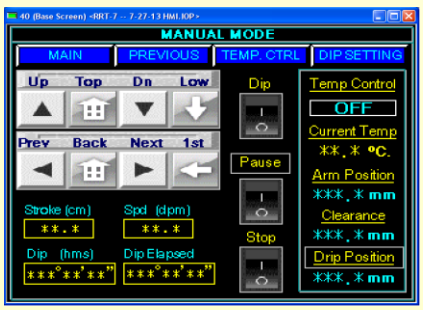
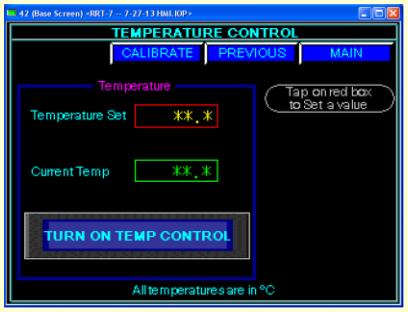
**SCR-CL**
**Sample Collector**


**DSC-8 00**
**System Controller**

**SYP-8L-10ml**
**Syringe Pump**




**Manual Control**




**Temperature Control**


**Password Protection**

**Warranty**

**Full 1-year standard warranty on complete system**

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LOGAN
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# LOGAN SYSTEM SUS-4000
# Automated Suspension Sampling System

### *Features:*

- Take samples from 8 suspension test cells, up to 20 sampling time points
- Flow-thru system, no pressure build- up during the test, no leakage
- Syringe pump sampling system, accuracy to ±1%
- Selectable flow rates: 4ml, 8 ml, 16ml, 24ml per minute
- Printer for full report

## **LOGAN** Automated Suspension Sampling Sy

The LOGAN SYSTEM SUS-4000 is designed to test the release rate of suspension drugs by using a flow-thru method. The dry heat temperature controlling system ensures all test s are performed at the programmed temperature. The membrane is mounted between the suspension cell (donor) and the flow-thru chamber (receptor). Temperature is maintained at 37°C by thermostatically controlled heater blocks, which surround the suspension cells. Homogenous distribution is accomplished by the agitating motion of a Teflon-covered mag netic stirring bar, driven by an external magnet mounted on a timing motor.

This system saves valuable time by automating sample collection. The PP-8 Series **Pulsating** Pump Module withdraws & measures pre-heated media volume from the dry h eat reservoir at selectable speeds (4, 8, 16, 24ml/min). Media **is** pushed to the flow- thru c hamber, mixed with the released suspension drug, and then remixed again in the deliver ing loop. The precise volume samples are then automatically delivered into HPLC vials or glass tubes.

The samples can run as a closed loop or open loop. At each time interval samples are dispensed simultaneously into HPLC vials or glass tubes that are stored in the SCT Series Sample Collectors. For more information please contact Logan Instruments.

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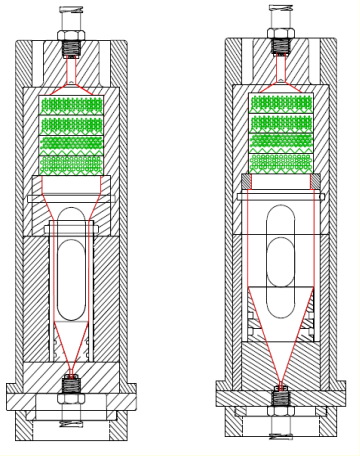
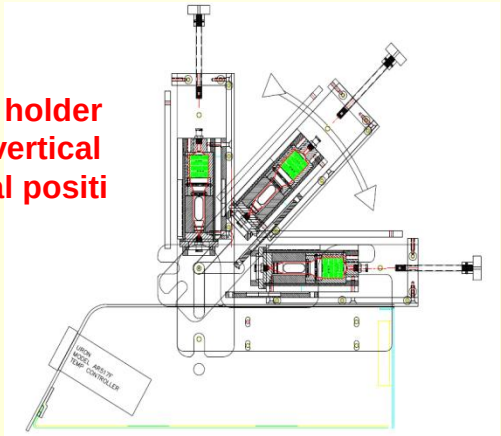
Vertical position for traditional USP 4



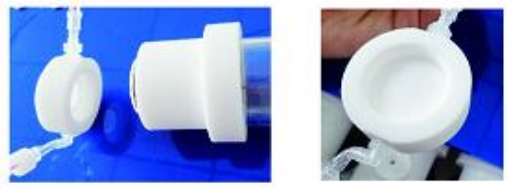
Tower filtration design to avoid blockage

Unique cell holder design for vertical or horizontal positi on

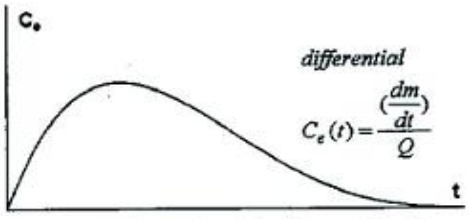


Horizontal position for suspension cells

suspension cells

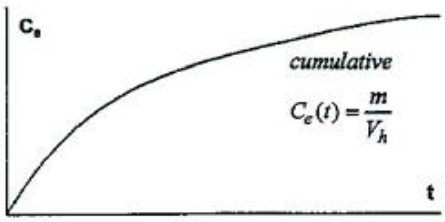


## Open loop system




USP flow through method (apparatus 4)

## Close loop system




USP stirring methods (apparatus 1+2)

**Warranty**

**Full 1-year standard warranty on complete system**

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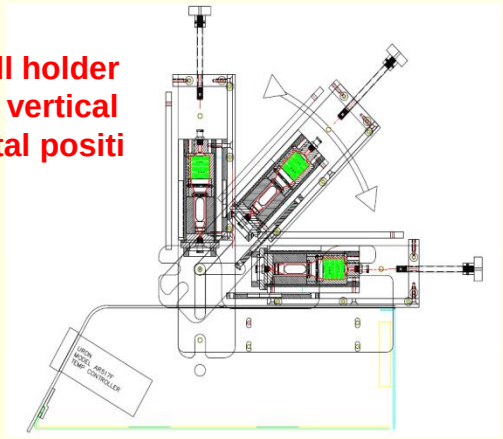
# Automated USP 4 Sampling System (Dry Heat)


***Features:***

**Unique cell holder design for vertical or horizontal positi on**



## LOGAN DRY HEAT USP 4 Sampling System

The Logan modified USP 4 is designed to test the dissolution rate of drugs **with the** flow-t hru method, the dry **h**eat temperature controlling system ensures all tests are performed a t the programmed temperature. The sample is placed in the middle of the flow-thru **c**ell. P owder or oily drugs can be sandwiched between glass beads. Temperature is maintained at 37°C by thermostatically controlled heater blocks, which surround the flow-thru cells. T he pulsating pump constantly transfers the media into a preheated chamber and then to t he **fl**ow-thru cells, homogenously distributing the media to the sample.

This system saves valuable time by automating circulation and sample collection by positi ve pulsating pump module, which withdraws & measures pre-heated media volume from the media reservoir at selectable speeds (4, 8, 16ml/min). Media **is** withdrawn from the re servoir and then pushed to the flow-thru cell; the drug dissolved media is filtrated by multi-layer filters to avoid tube clogging. As per user application, the samples can be collected or kept circulating in the loop.

The samples can run as a closed loop or open loop. At each time interval, samples are dispensed simultaneously into HPLC vials or glass tubes that are stored in the SCT Series Sample Collectors. For more information please contact Logan Instruments

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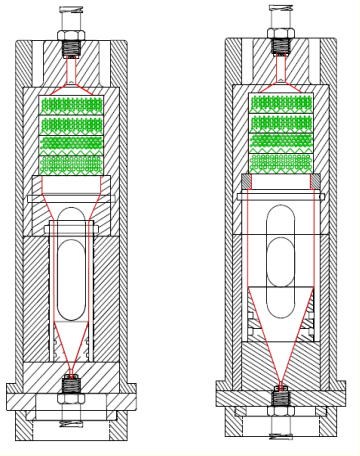
**Vertical position for traditional USP 4**



**Tower filtration design to avoid blockage**

**Positive Pulsating Pump**


**System controller & collector**

**Warranty**

**Full 1-year standard warranty on complete system**

**Logan Instruments Corp. 19-C Schoolhouse Rd, So merset New Jersey 08873 USA**

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# LOGAN RRT-7 Release Rate Tester (USP 7)

*Features:*

- **No evaporation**
- **Dry heat temperature control**
- **Tests 24 samples at a time**
- **Unique design takes up 1/3 less space**
- **Designed as a stand alone unit or can be fully automated to collect samples, change media and clean vessels**
- **Optional on line UV or HPLC analysis**

## LOGAN RRT-7 Release Rate Tester (USP-7)

The LOGAN RRT-7 Release Rate Tester is the newest USP 7 apparatus for dissolution testing required by the USP. This 24 test tube tester is designed for easy and continuous operation. The RRT-7 features heated carrousels instead of a traditional water bath, as well as a rotational carrousel system to replace a traditional row-to-row device.
The carrousel allows 12 test tubes for testing and 12 test tubes that prepare for the next test when the carrousel rotates. This layout allows a total of 24 tubes to be tested at the same time. Samples can be drawn from the test tubes during the test or after the test is complete. In addition, the shafts for each type of sample-holder are identical so that all sample-holders are interchangeable. The interchangeable sample holders make it simple to change the test methods.

The RRT-7 features a touch-screen display with a colorful and user friendly interface that makes programming very easy. This unit can be networked and controlled or monitored remotely. To prevent temperature hazards, the carrousels include an automatic safety shut -off switch, which turns off the heating system as soon as the temperature rises above the safety limit.

Several options are available for the Logan RRT-7, including the automated tube-cleaning/ filling system, and an automated sampler to collect samples or further transfer to HPLC as an online analysis system. A media reservoir tank that allows the system to run non-stop is also available. Performance of the Logan RRT-7 Release Rate Tester exceeds the requirements of USP.

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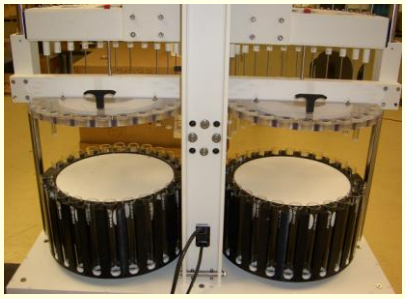
## Specifications

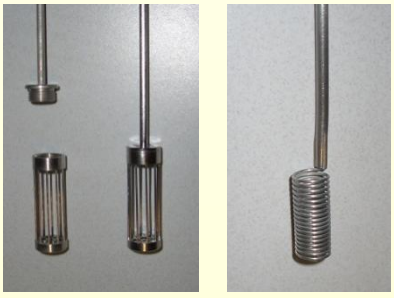
Dip positions (active)…….. 24
Dip speed range……..5 - 50 dpm ± 0.1 dpm
Temperature range……..25 – 45°C ± 0.1°C
Shaft diameter……1/8''
Carrousels……Black anodized aluminum
Water bath heater ……...600 watts
Voltage……..110 - 120 VAC, 50/60 Hz
220 - 240 VAC, 50/60 Hz
Weight……...44 lbs. (20 kg)
Size (L×W×H)……14” × 30” × 42"

## RRT-7 Options:

Color Touch Screen Display



Dual Carrousels/Heater



Sample Holder Kit

LOGAN SYSTEM 7000 Fully Automated USP 7

## Warranty

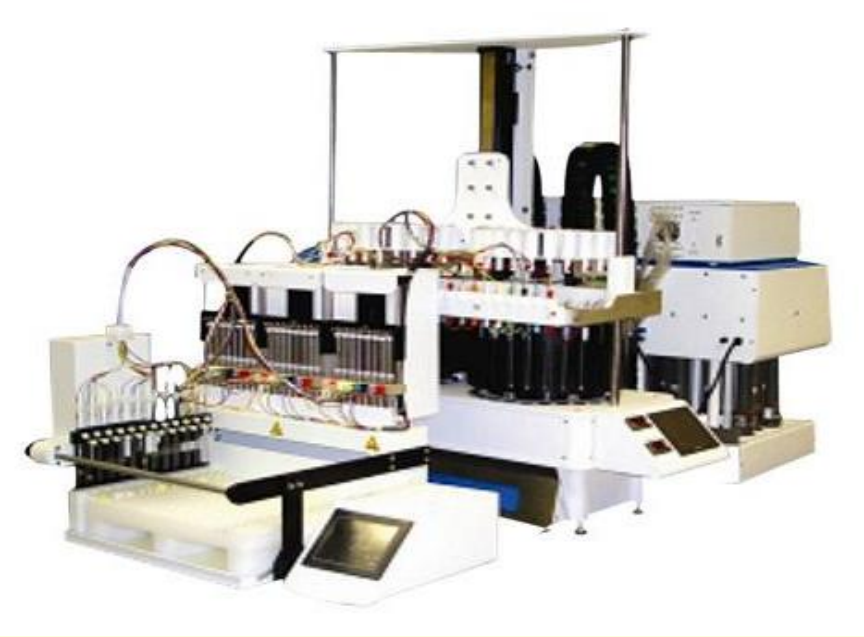
Full 1-year standard warranty on complete system

LOGAN INSTRUMENTS CORP.

Logan Instruments Corp. 19-C Schoolhouse Rd,

Somerset New Jersey 08873 USA

# LOGAN SYSTEM 7000
# Fully Automated USP 7 System



## Fully Automated USP 7 System

**The LOGAN SYSTEM 7000 is a fully automated test system for UPS Method 7 dissolution testing. This easy-to-operate (24-tubes per carrousel) Fully Automated Release Rate Test System utilizes the most modern technology and is designed to operate trouble-free and continuously.**

**In operation, the solid dosage samples (Transdermal patches, pellets, tablets, etc) are placed in the sample holders, after attaching the samples onto the sample holders, the shaft assembly automatically lines up with the test tubes down below. The carrousel temperature is controlled to a target set point ±.1ºC throughout the assembly, and the media is preheated in the test tubes. The dip speed, dip time, hold time, drain time, and temperature are controlled by the unit's microprocessor. The SYP-24 Syringe Pump takes samples at programmed time intervals and transfers them to the SCT-480 Sample Collector. At the end of each test cycle, the carrousal rotates 180º a new set of test tubes for the next test, the ATC-1200/MDS-1200 removes and raises the test tubes and refill the fresh media into the test tubes for the next test.**

**The Logan SYSTEM 7000 is fully automated, it can be controlled either by a stand alone system controller or by PC. The Logan SYSTEM 7000 is made of high quality metal which fully meets GLP requirements.**

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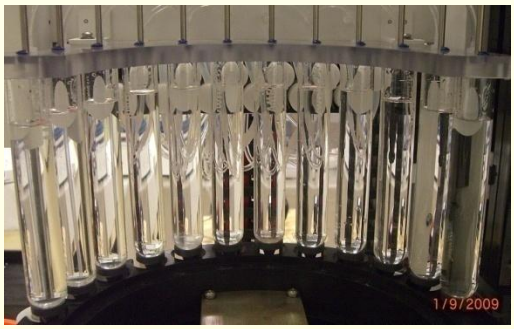
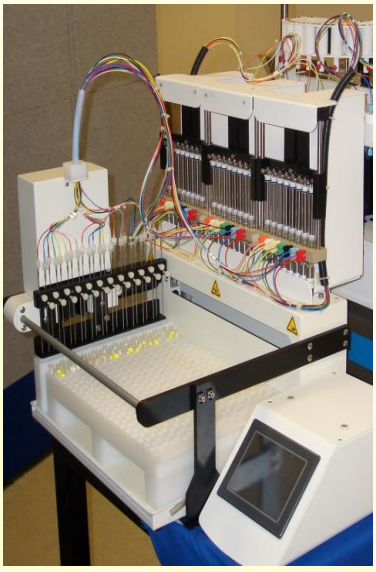


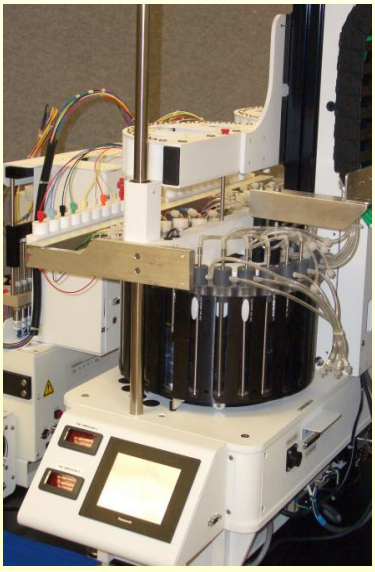

**Weighing Station to insure the delivered volume is accurate**

**Carrousel design for non-stop operation**

**Filtering station**



**24 Position syringe pump and collector**



**Washing/refill station**

**Sampling station**

**Warranty**

**Full 1-year standard warranty on complete system & Shimadzu standard warranty on the spectrograph**

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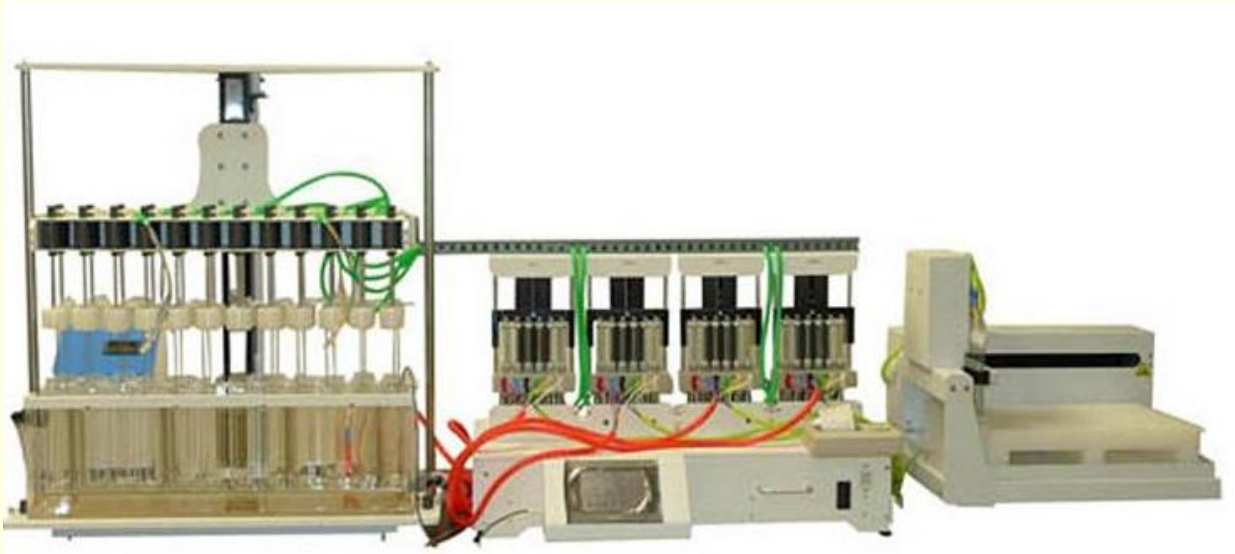
# LOGAN SYSTEM 7000-24
# Automated USP 7 Sampling System



## Automated USP 7 Sampling System

**The RRT-7W Release Rate Tester (USP Apparatus 7) is the newest apparatus for dissolution testing required by the USP. This machine features 24 test positions for easy and efficient testing. It comes with a water bath and VTC-200 heater circulator to maintain a stable and accurate temperature. Samples can be drawn from the test tubes during the test by the SYP-6K-10 precision syringe pumps to eliminate tedious manual sampling. All samples are collected into 2 ml HPLV vials for further testing.**

**The system controller features a touch-screen display. The colorful and user-friendly interface makes the programming of the methods very easy. The motion control is totally digitalized; this makes the system very accurate in terms of dip speed control and timing.**

**Performance of the Logan RRT-7 Release Rate Tester exceeds the requirements of USP, BP, EP and JP.**

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## Specifications

### RRT-7W Release Rate Tester

Test Positions……24 Positions
Test Tube Size……38 mm OD × 200 mm; 150 ml
Speed Control……0 - 50 RPM, accuracy ± 0.1 RPM
Dip Shaft Size……1/4 DIA with M3 threaded hole
Sample Shaft Size……1/8 DIA with M3 threaded ends
Filter Size……1/8 ID polyethylene pre-filter, 35µ pore size
Overall Size……30”W × 34”H × 15”D
Test Stroke……..User defined
Weight……..60 lbs.

### VTC-200 Heater/Circulator

Temp. Control……25 - 45° C, accuracy ± 0.3° C
Size……..8”W × 14”H × 12”D
Weight……10 lbs.
Voltage……110 – 120 V 50 – 60 Hz
Power……..750 W
Fuse……10 AMP

### ASC-7000W System Controller

Size……..30”W × 6.5”H × 22”D
Display……5.5” color LCD touch screen
Weight……55 lbs.
Voltage……110 – 120 V 60 Hz
Fuse……5 AMP

### SYP-6K-10 Precision Syringe Pump

Syringes……6
Syringe Volume……10 ml
Syringe Precision……± 0.1 ml
Size……..7”W × 13”H × 9”D
Weight……9 lbs.
Voltage……24 VDC

### SCT-480 Automated Sample Collector

Positions per Row……..24
Collect Positions……480 (20 × 24)
Vial……..2ml Agilent Style HPLC Vial
Septa……..Precut style
Sample Tray……..HDPE 480 positions
Size……21”W × 18”H × 19”D
Weight……30 lbs.
Power Supply……...90 – 240 V AC Adaptor

## Warranty

Full 1-year standard warranty on complete system & Shimadzu standard warranty on the spectrograph

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Somerset New Jersey 08873 USA

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# MDS-600PL Media Delivery System

*Features:*

•The mobile unit brings the pre-heat degassed media to dissolution testers.

•Fills 6 vessels to the same volume simultaneously.

•Media de-aerated by heat, high speed circulation, filtration and vacuum.

•Temperature accuracy controlled to +/- .2 C. Timer control to automatically start the system

•Simultaneously delivers 6 vessels up to 1000 ml within 2 minutes

•Detachable Oxygen meter to check oxygen dissolving rate to meet USP requirements

• Printer report for Date, Time, Media Type. Media Volume, Temperature, Oxygen Dissolving Rate, pH…….

## MDS-600PL Media Delivery System

MDS-600PL Media Delivery System is a newly automated and portable media preparatio n and delivery system. It is designed to dispense accurate volumes of dissolution media and is compatible with all major brands of dissolution testers. The MDS-600PL fills 6 ves sels simultaneously with a repeatable volume of better than ± 0.5% of set volume. The media is degassed by heat, vacuum, filtration and circulation. The MDS-600PL has a pri nter, which records the date, time, media type, volume, temperature, Oxygen dissolving l evel and pH can be record from external device . The programmable timer for automatic start the pre-heat and degassing , MDS-600PL has preset volumes of 250, 500, Custom (defaulted at 750), 900, 1000 ml or any user volume. It has been successfully used with all types of surfactants.

When everything is ready the user takes the MDS-600PL delivery manifold to the dissolu tion baths and the manifold is positioned over the test vessels. Pressing the start switch begins the media delivery and less than two minutes are required to complete simultaneo us 1000 milliliter delivery to all six test vessels. After the media delivered into the vessels, user checks the oxygen dissolving by provide oxygen meter and record the oxygen disso lving rate on the printer.

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## Specifications

Reservoir……15 US gal (60 liters)

Timer……delay start ≤ 14 hrs

Temperature range……25 - 45° C

Temperature accuracy……..± 0.2 ° C

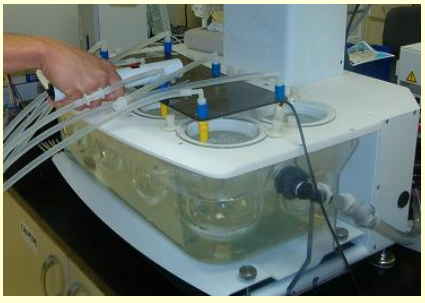
Voltage……110 - 120 VAC, 50/60 Hz
220 - 240 VAC, 50/60 Hz

Weight……..120 lbs. (55 kg)

Size (L×W×H)……...32“ × 16” × 58"
(82 × 41 × 148 cm)

## In Operation:

1. **Wheel the MDS-600 to the dissolution tester**
2. **Select the desired media volume**



3. **Place the delivery manifold on top of the vessels**
4. **Press the delivery button on the handle to start transferring the pre-heat/degassed media into all 6 vessels**

## Degassed: By Heat/High Speed Circulation/Vacuum/Filtration

## Warranty

**Full 1-year standard warranty on complete system**

LOGAN INSTRUMENTS CORP.

**Logan Instruments Corp. 19-C Schoolhouse Rd,**

**Somerset New Jersey 08873 USA**

# MDS-600T Table Top Media Delivery System

*Features:*

- **Table top unit fills media into 6 dissolution vessels**
- **Six vessels filled to the same volume simultaneously**
- **Volume delivered to better than ±1%**
- **Degassed by filtration, circulation, vacuum and heat**

## MDS-600T Table Top Media Delivery System

The MDS-600T is a table top media preparation and delivery system. It will dispense precise volumes of media into 6 dissolution vessels for transfer to all major brands of dissolution testers. The MDS-600T fills 6 vessels simultaneously with a repeatable volume of better than ±1%, with temperature accuracy controlled to ±0.2°C.

The media is de-aerated by heat, vacuum filtration and high-speed circulation.

Volume is preset at the factory for 250, 500, 750, 900 or 1000 ml. (Other volumes can be specified at the time of ordering.) It has been successfully used with most common surfactants.

In use, the user places the 6 empty vessels into the carrier and puts the carrier below the MDS-600T. Select the desirable volume from the front panel and press the delivery switch. The preheated/degassed media precisely transfers into 6 dissolution vessels. User can bring the vessel carrier to the dissolution tester.

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## Specifications

Reservoir……15 US gal (60 liters)

Timer…… delay start ≤ 14 hrs

Temperature range……..25 - 45° C

Temperature accuracy……± 0.2° C

Voltage……...110 - 120 VAC, 50/60 Hz
220 - 240 VAC, 50/60 Hz

Weight……...120 lbs. (55 kg)

Size (L×W×H)……32” × 16” × 58"
(82 × 41 × 148 cm)

## In Operation:


1. **Place the 6 dissolution vessels into the carrier and place it below the MDS-600T**
2. **Select the desired media volume**
3. **Bring the carrier to the dissolution tester**
4. **Put the pre-heated, degassed, precisely filled media vessels into the dissolution tester**

## Degassed: By Heat/High Speed Circulation/Vacuum/Filtration

## Warranty

**Full 1-year standard warranty on complete system**

**Logan Instruments Corp. 19-C Schoolhouse Rd,**

**Somerset New Jersey 08873 USA**

LOGAN INSTRUMENTS CORP.

# AVC-100HTP Automated Vessel Cleaner

**Design Features:**

*The majority of the cleaning is done by high pressure hot water spray, which removes the lodged particles from the vessel wall and pushes them to the bottom of the vessel
*Large color touch screen controller.
* Air guide on the vacuum removes all the liquid from the vessel wall.
*To clean vessels without removing them from the bath
* Operated on most dissolution testers

**Vessel Validation:**

*Wash time and liquid temperature are programmable,
*10 wash methods can be stored for different product validations.
*Wash validation methods .

## AVC-100 HTP Automated Vessel Cleaner W/ Heater & Timer

The AVC-100HTP is an Automated Vessel Cleaner that is equipped with heater/timer and 2 high pressure spray heads. Both spray heads cover the vessel's internal surface completely to ensure the vessel is clean. This unit is designed to facilitate the timely process of washing dissolution vessels and validation further eliminating vessel breakage. Mobility is an advantage of the AVC-100HTP. The easy gliding wheels of this unit move it between stations and the extended wash head tubing allows dissolution vessels to be washed without removing them from the test equipment.

The AVC-100HTP is equipped with a PLC; it is used in conjunction with the auto function. The users can validate the wash method for different products and store as a wash method. In the automated mode the wash time/temperature is selected by programming the timer/temperature display on the front panel.

The heater is used to heat the cleaning media and may be used in either the manual or automated mode.

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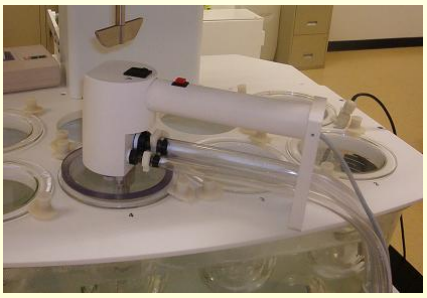
## Specifications

Cleaning Head……Water jet with brush head
High speed vacuum cleaner tube
Easy switch operating position (wash to vacuum and reverse)
Heater…… 700W heater
Washer Tank……..15 U.S. gallon capacity (59 liters)
High level sensor with audible warning
Low level safety shutoff switch
Overflow control
Waste Tank……15 U.S. gallon capacity (59 liters)
High level sensor switch with audible warning
Safety shutoff switch/Self emptying pump
Size……32” × 16” × 48” (82 × 41 × 122 cm)
Weight……Approximately 90 lbs. (41 kg)
Voltage……..110 - 120 V, 220 – 240 V, 50/60 Hz

## In Operation:

**1. Wheel the AVC-100HT to the dissolution tester**



**2. Insert the wash head into the vessel to remove the media and start the washing cycle**

**3. Vessel validation**

## Accessory Parts: Brush Head

## Warranty

**Full 1-year standard warranty on complete system**

LOGAN INSTRUMENTS CORP.

**Logan Instruments Corp. 19-C Schoolhouse Rd,**

**Somerset New Jersey 08873 USA**

# DST-3/6 Automated Disintegration Tester


***Features:***

- Microprocessor controlled time and temperature
- Audible end of run signal
- Modular design for 1 to 6 simultaneous tests
- Single in-line layout for ease of viewing all basket assemblies
- Meets or exceeds all USP requirements and specifications
- Rugged construction for years of dependable performance

## DST-3/6 Automated Disintegration Tester

The DST-3/6 automated disintegration tester is the latest device specifically designed for USP required testing of the disintegration time threshold for solid dosage medication.

The design uses a programmable microprocessor to control and monitor the testing process. The single in-line layout allows all baskets to easily be viewed throughout each run. Each water tank holds 3 beakers; the 2 water tank design can perform with a total of 6 baskets.

With its advanced features it is simple to set up and operate. The operator inputs the length of the run, loads the tablets, and presses the start button.

A series of beeps are emitted as an alert that one minute is left before the test ends. At the conclusion of the run, the basket assemblies are automatically lifted out of the beakers and left in a fully raised position for ease of viewing.

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## Specifications

Number of basket assemblies……...1, 2, 3, 4, 5, 6

Length of stroke..... 55 ± 2 mm

Frequency…… 31 ± 1 strokes/min

Temperature control……30 - 50°C ± 0.5°C

Bath construction…… Clear acrylic

Water bath heater……700 watts

Screen to beaker (down)……25 ± 2 mm

Liquid to screen (up)..... 25 ± 2 mm

Voltage.....110 - 120 VAC, 50/60 Hz

220 - 240 VAC, 50/60 Hz

Weight…….. 35 lbs.

Size (L × W × H)……6“× 20” × 22"

## Accessory Parts:

**The complete system includes:**

| Part # | Qty | Description |
|---|---|---|
| 031-0010 | 1 ea | Programmable drive unit |
| 030-0011 | 1 ea | Heater circulator |
| 030-0012 | 1 ea | Water bath |
| 030-0050 | 3 ea | Hanger assembly |
| 030-0051 | 3 ea | 10 Mesh basket screen set |
| 030-1055 | 18 ea | Plastic disk |
| 030-0056 | 3 ea | Disintegration beakers |
| 030-0057 | 1 set | Height adjustment kit |
| 030-0058 | 18 ea | Glass tube |

## Warranty

**Full 1-year standard warranty on complete system**

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**Logan Instruments Corp. 19-C Schoolhouse Rd,**

**Somerset New Jersey 08873 USA**

WWW.loganinstruments.com **Email:** logan@superlink.net **TEL: 732 302 9888**

# LOGAN HDT-400L Hardness Tester

***Features:***

- Thickness, hardness and diameter measurements from one test
- Printout of calibration data via external printer
- Can interface with an external balance via optional PC and software package
- Manual or automatic testing
- Automatic statistical calculations for: mean value, absolute and relative standard deviation

## LOGAN HDT-400L AUTOMATED HARDNESS TESTER

The Logan HDT-400L Hardness Tester is the latest device specifically designed for hardness, as well as thickness and diameter testing of tablets, caplets and cores. HDT-400L can be linked up with a balance to input the tablet weight and do the complete calculation and reports. A programmable microprocessor controls the system and provides all test results and statistical calculations on a digital LCD display. A parallel port is supplied standard for an optional printer.

With its advanced features the HDT-400L hardness ranges are as follows: 5-350 N, the diameter and thickness 2 – 35 mm. The hardness measurement units can be selected as N, Kp, Sc the diameter and thickness measurement units can be selected as mm or inch.

The user lifts the top cover and loads the sample onto the tray. The test may then proceed in automatic (for up to 99 samples) or manual mode. A removable plastic tray is attached under the measurement compartment and a small hand held brush is provided to neatly retrieve sample fragments. The instrument calibration is simple to perform on any flat surface with standard tools.

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## Specifications

**Hardness range…… 5 - 350 N**

**Hardness accuracy…….. ± 1%**

**Diamter/thickness range…….. 2.0 - 35.0 mm**

**Diameter accuracy…… ± 0.03 mm**

**Measurement units…….. Newtons (N)/Kiloponds (Kp)/Strocobbs (Sc)**

**Diameter……..Millimeters mm/Inches**

**Time per test…… 45 sec.**

**Test method……Manual/Automatic**

**Test data……..Diameter/Thickness/Hardness**

**Test statistics……High, Low, Mean Values, RSD**

**Display……LCD**

**Printer output..... Parallel Port**

**Voltage……110 V/50 – 60 Hz or 220 V/50 – 60 Hz**

## Accessory Parts:

| Part No. | Description |
|---|---|
| 230-0001 | **10 Kg Certificated Weight for Calibration** |
| 230-0002 | **10 mm Certificated Bar for Thickness Calibration** |
| 012-5103 | **Printer Paper** |
| 012-5102 | **Printer Ribbon** |
| 012-5104 | **Printer Cable** |
| 230-0003 | **Brush** |
| 230-0004 | **Tablet Tray** |

## Warranty

**Full 1-year standard warranty on complete system**

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# FAB-2S Friability Tester


***Features:***

- **Meets all current USP, BP guidelines**
- **LED Display for TIME or COUNTER**
- **Microprocessor technology control system**
- **Easy-to-use input key pad**
- **Modular design for one or two drums**
- **Rugged construction for years of dependable performance**

# FAB-2S Friability Tester

The FAB-2S Friability Tester is the latest device to test the mechanical strength of tablets, meeting all current USP and BP requirements. The FAB-2S is designed for use with both friability and abrasion drums, and either one or two drums can be used at a time. The speed of the rotation is variable from 20-70 RPM as per user selection.

In use, the operator loads the tablets into the drum, and places it on the drive shaft. The test time or number of rotations can be selected and easily entered via the keypad. The inputted data and rotation or time countdown are clearly indicated on the LED display.

The drums are constructed from Plexiglas and separated into two parts, the drum body and drum cover. The cover is easily removed to facilitate filling or discharging of the samples and cleaning the inside of the drum.

The FAB-2S is made of high quality metal with an acid resistant finish and meets all GLP requirements.

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## Specifications

Drum position…….. 2

Drum speed…….. 20 - 70 RPM

Speed accuracy per minute…..……± 1 RPM

Maximum testing time……..9:59' 59“

Maximum count of revolutions…….. 99999

Size..... 12” × 16” × 14“

Weight…….. 20 lbs.

Voltage……..110 - 120 VAC/60 Hz

-or-

220 - 240 VAC/60 Hz

## Accessory Parts:

| Part No. | Description |
|---|---|
| 210-1000 | **USP Drum Assembly, Left** |
| 210-1001 | **USP Drum Assembly, Right** |
| 210-1002 | **Abrasion Drum Assembly, Left** |
| 210-1003 | **Abrasion Drum Assembly, Right** |
| 210-1004 | **Drum Nut** |

## Warranty

**Full 1-year standard warranty on complete system**

LOGAN INSTRUMENTS CORP.

**Logan Instruments Corp. 19-C Schoolhouse Rd, Somerset New Jersey 08873 USA**

www.loganinstruments.com **Email:** info@loganinstruments.com **TEL: 732 302 9888**

# FAB-2SP Friability Tester w/ Printer


***Features:***

- **Meet all current USP, BP guidelines**
- **LED display for TIME or COUNTER**
- **Microprocessor technology control system**
- **Easy-to-use input key pad**
- **Modular design for one or two drums**
- **Rugged construction for years of dependable performance**
- **Printer for test report**

# FAB-2SP Friability Tester

The FAB-2SP Friability Tester is the latest device to test the mechanical strength of tablets, meeting all current USP and BP requirements. The FAB-2SP is designed for use with both friability and abrasion drums, and either one or two drums can be used at a time. The speed of the rotation is variable for 20-70 RPM as per user selection.

In use, the operator loads the weighted tablets into the drum, and then places it on the drive shaft. The test time or number of rotations can be selected and easily entered via the keypad, the inputted data and rotation or time countdown are clearly indicated on the LED display. After a test, just empty the tablets from the drum window to a 10 mesh sieve and weight the tablets. Input the weight before the test and after the test to the FAB-2SP, the printer delivers all the test data and calculations at the end of test.

The drums are constructed from Plexiglas and separated into two parts, the drum body and drum cover. The cover is easily removed to facilitate filling or discharging of the samples and cleaning the inside of the drum. The FAB-2S is made of high quality metal with an acid resistant finish and meets all GLP requirements.

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## Specifications

Drum position…….. 2

Drum speed..... Fixed at 25 RPM

Speed accuracy per minute……...± 1 RPM

Maximum testing time…….9:59’59“

Maximum count of revolutions…….. 99999

Size……12” × 16” × 14“

Weight……...20 lbs.

Voltage.....110 - 120 VAC/60 Hz

-or-

220 - 240 VAC/60 Hz

## Accessory Parts:

| Part No. | Description |
|---|---|
| 210-1000 | **USP Drum Assembly, Left** |
| 210-1001 | **USP Drum Assembly, Right** |
| 210-1002 | **Abrasion Drum Assembly, Left** |
| 210-1003 | **Abrasion Drum Assembly, Right** |
| 210-1004 | **Drum Nut** |
| | **Printer & Cable** |

## Warranty

**Full 1-year standard warranty on complete system**

LOGAN INSTRUMENTS CORP.

**Logan Instruments Corp. 19-C Schoolhouse Rd, Somerset New Jersey 08873 USA**

www.loganinstruments.com **Email:** info@loganinstruments.com **TEL: 732 302 9888**

# TAP-2S Tap Density Tester


***Features:***

- **Dual platform for simultaneous USP analysis of USP Method I and II**
- **Interchangeable for 100 ml or 250 ml glass cylinders**
- **Microprocessor controlled**
- **Easy-to-use input key pad**
- **Simultaneous tapping and rotary motion**
- **Patented HOLD DOWN CUFF**

# TAP-2S Tap Density Tester

The TAP-2S tap density tester is designed for powder/granule tapping or bulk density tests in compliance with USP, BP, and EP. TAP-2S is designed for USP Methods I and II, and comes complete with interchangeable 100 ml and 250 ml glass cylinders and holders. When in motion, the cylinder simultaneously taps and rotates, insuring that the material being tested is packed evenly throughout the cylinder and leveled with the cylinder surface for direct reading.

In operation, the user loads the powder or granules into a cylinder and places it on the platform. The test time or number of taps is easily entered using the instrument's keypad. The run parameters are clearly shown on the LED display in real time.

The cylinders are driven by a silent step motor that is fixed at 250 (USP Method II) or 300 (USP Method I) strokes per minute. There are a few options with this product. A unit can be purchased with two cylinder holders for USP Method I and run simultanesouly. A unit may also be purchased with two cylinder holders for USP Method II. A third option is a unit that has both USP Method I and II, but individual tests must be done.

In order to qualify within USP guidlelines, Logan TAP-2S provides 4 certificates: The 100 ml glass cylinder and 250 ml cylinder, Method I holder and Method II holder.

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## Specifications

**Cylinder position…….. 2**

**USP Method I:**

**TAP speed…….. 300**

**Drop height……14 ± 2 mm**

**- OR -**

**USP Method II**

**TAP speed…….. 250**

**Drop height……3 ± .2 mm**

**Display…….. LED**

**Speed accuracy……± 10 TPM**

**Maximum testing time…..9:59'59“**

**Maximum count of TAP....99,999**

**Size……12” × 16” × 14"**

## Accessory Parts:

| Part No. | Description |
|---|---|
| 010-9021 | **100 ml glass cylinder** |
| 010-9022 | **250 ml glass cylinder** |
| 200-0005 | **Holder cap** |
| 200-0006 | **Holder screws, set of 10** |
| 200-0007 | **Rubber Pad for 100 ml cylinder** |
| 200-0008 | **Rubber Pad for 250 ml cylinder** |

## Warranty

**Full 1-year standard warranty on complete system**

LOGAN INSTRUMENTS CORP.

**Logan Instruments Corp. 19-C Schoolhouse Rd, Somerset New Jersey 08873 USA**

www.loganinstruments.com **Email:** info@loganinstruments.com **TEL: 732 302 9888**

# TAP-2SP Tap Density Tester w/ Printer


*Features:*

- **Dual platform for simultaneous USP analysis of USP Method I and II**
- **Interchangeable for 100 ml or 250 ml glass cylinders**
- **Microprocessor controlled**
- **Easy-to-use input key pad**
- **Simultaneous tapping and rotary motion**
- **Patented HOLD DOWN CUFF**
- **Printer for test report**

# TAP-2SP Tap Density Tester

The TAP-2SP tap density tester is designed for powder/granule tapping or bulk density tests in compliance with USP, BP, and EP. The TAP-2S is designed for USP Methods I and II, and comes complete with interchangeable 100 ml and 250 ml glass cylinders and holders. When in motion, each cylinder simultaneously taps and rotates, insuring that the material being tested is packed evenly throughout the cylinder and leveled with the cylinder surface for direct reading.

In operation, the user loads the powder or granules into a cylinder and places it on the platform. The test time or number of taps is easily entered using the instrument's keypad. The run parameters are clearly shown on the LED display in real time, the printer reports the test data at the end of each tap cycle.

.

The cylinders are driven by a silent step motor that is fixed at 250 (USP Method II) or 300 (USP Method I) strokes per minute. Units may be purchased to perform either USP Method I or USP Method II on both platforms or a combination of the two methods on a single unit.

In order to meet the validation, Logan TAP-2SP provides 4 certifications: The 100 ml glass cylinder and 250 ml cylinder, Method I holder and Method II holder.

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## Specifications

**Cylinder position……2**

**USP Method I:**

**TAP speed……300**

**Drop height……..14 ± 2 mm**

**- OR -**

**USP Method II:**

**TAP speed..... 250**

**Drop height……3 ± .2 mm**

**Display…….. LED**

**Speed accuracy…… ± 10 TPM**

**Maximum testing time… 9:59'59“**

**Maximum count of TAP.. 99,999**

**Size……... 12“ × 16” × 14"**

## Accessory Parts:

| Part No. | Description |
|---|---|
| 010-9021 | **100 ml glass cylinder** |
| 010-9022 | **250 ml glass cylinder** |
| 200-0005 | **Holder cap** |
| 200-0006 | **Holder screws, set of 10** |
| 200-0007 | **Rubber Pad for 100 ml cylinder** |
| 200-0008 | **Rubber Pad for 250 ml cylinder** |
| | **Printer & Cables** |

## Warranty

**Full 1-year standard warranty on complete system**

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**Somerset New Jersey 08873 USA**

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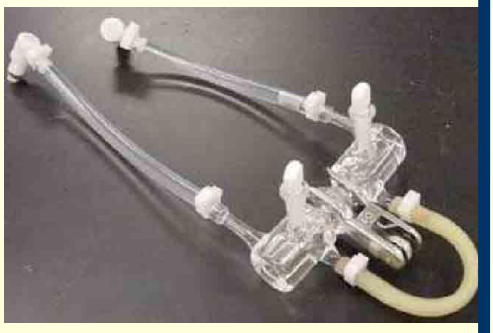
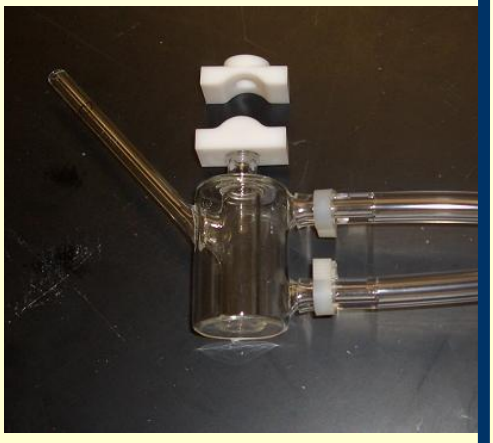
# Section 6. Transdermal Diffusion Cell Systems

**LOGAN Vertical Transdermal Diffusion Cells**



**LOGAN Side by Side Transdermal Diffusion Cells**



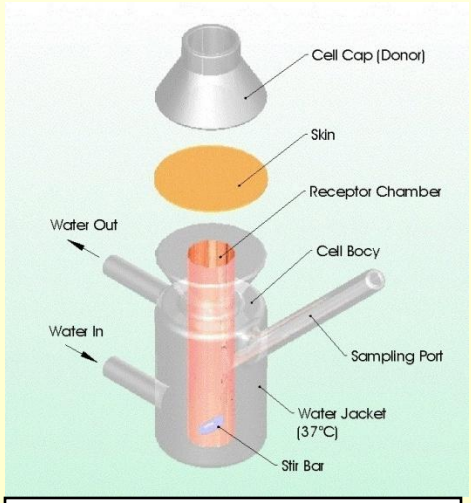
**LOGAN Nail Cells**

**LOGAN Bubble Free Transdermal Diffusion Cells**

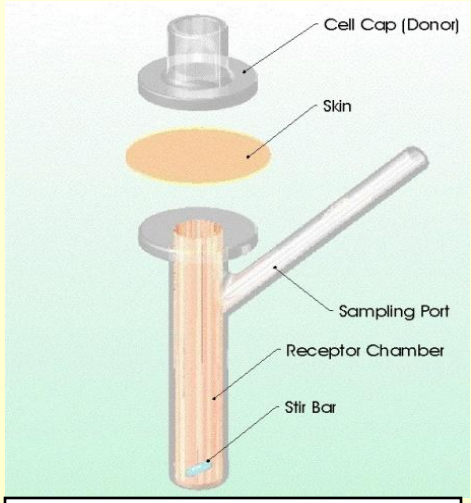
# LOGAN Vertical Transdermal Diffusion Cells

## Logan standard vertical cell (Franz cell) size:

| Part No. | Orifice Size (mm) | Volume (ml) | Area (Square cm) |
|---|---|---|---|
| FDC-0503 | 5 | 3 | .20 |
| FDC-0705 | 7 | 5 | .38 |
| FDC-0905 | 9 | 5 | .64 |
| FDC-1108 | 11.28 | 8 | 1.00 |
| FDC-1512 | 15 | 12 | 1.77 |
| FDC-2015 | 20 | 15 | 3.14 |
| FDC-2520 | 25 | 20 | 4.19 |




**Water Jacket Franz Cell**
**FDC cells**




**Dry Heat Franz Cell**
**DHC cells**

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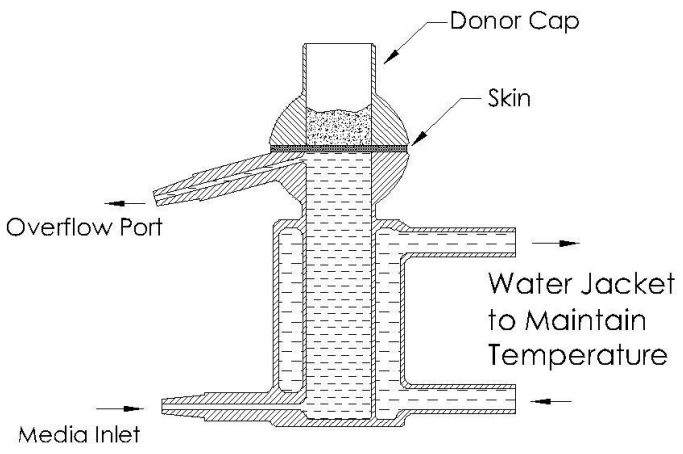
# LOGAN Bubble Free Diffusion Cells

## Logan Standard Bubble Free Cell (Franz cell) Size:

| Part No. | Orifice Size (mm) | Volume (ml) | Area (Square cm) |
|---|---|---|---|
| BFC-0503 | 5 | 3 | .20 |
| BFC-0705 | 7 | 5 | .38 |
| BFC-0905 | 9 | 5 | .64 |
| BFC-1108 | 11.28 | 8 | 1.00 |
| BFC-1512 | 15 | 12 | 1.77 |
| BFC-2015 | 20 | 15 | 3.14 |
| BFC-2520 | 25 | 20 | 4.19 |




Bubble Free Franz Diffusion Cell, by Logan Instruments Corp.
Patent Pending.

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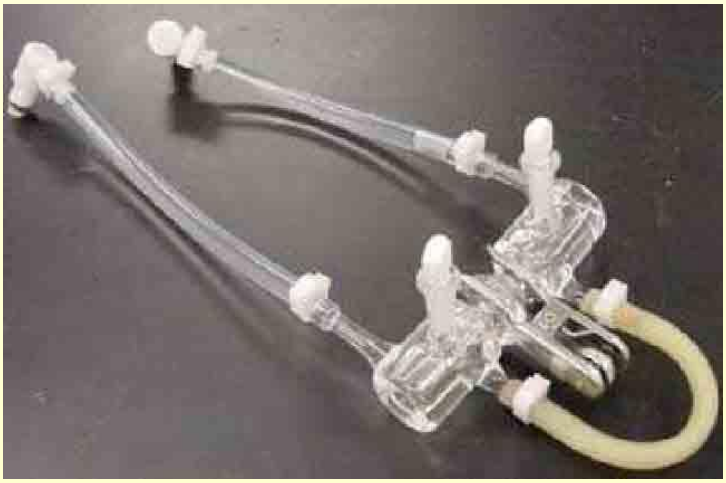
# LOGAN Side by Side Diffusion Cells

## Logan Standard Side By Side Cell (Horizontal cells) Size:

| Part No. | Orifice Size (mm) | Volume (ml) | Area (Square cm) |
|---|---|---|---|
| SDC-0503 | 5 | 3 | .20 |
| SDC-0705 | 7 | 5 | .38 |
| SDC-0905 | 9 | 5 | .64 |
| SDC-1108 | 11.28 | 8 | 1.00 |
| SDC-1512 | 15 | 12 | 1.77 |
| SDC-2015 | 20 | 15 | 3.14 |
| SDC-2520 | 25 | 20 | 4.19 |



**LOGAN Side By Side Cells**

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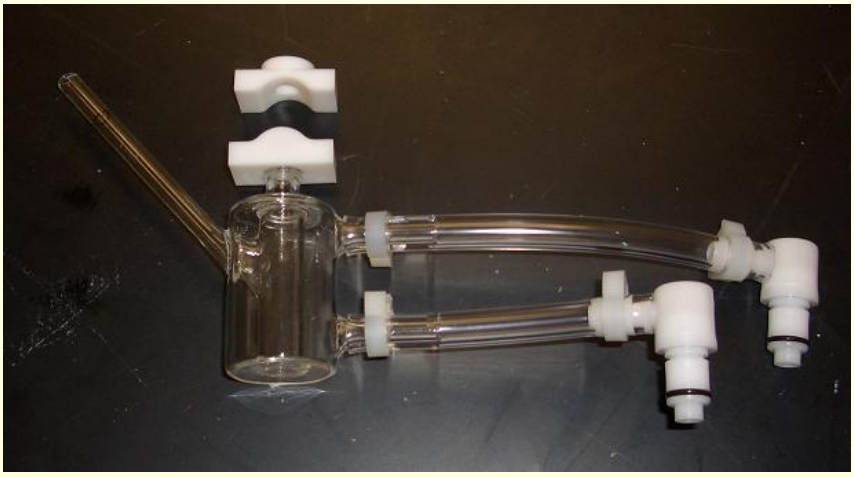
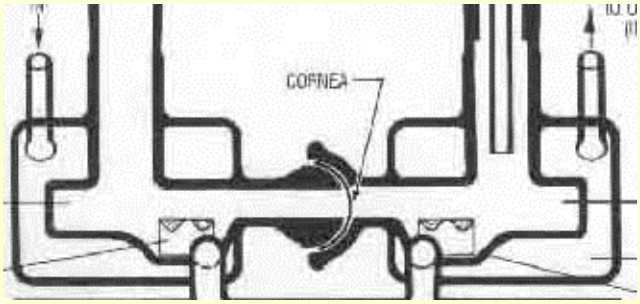
# LOGAN Nail Cells & Cornea Cells



**Logan Standard Nail Cells with water jackets**




**Logan Standard Cornea Cells with water jackets**
**vertical style or horizontal Style**

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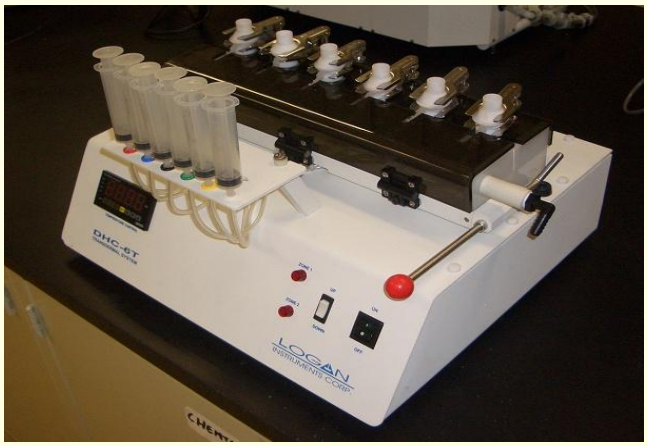
# LOGAN DHC-6T Dry Heat Transdermal System



***Features:***

- **Heating block design for parallel heating**
- **Interchangeable glass cell volumes, no more broken Franz cells**
- **Manual or automatic tilting system to purge air bubbles**
- **Modular design for system expansion**
- **Designed to test creams, lotions, ointments, and patches**
- **Built-in sampling device**
- **New cleaner look with light covers**
- **Patent Pending**

## DHC-6T Dry Heat Transdermal System

The DHC-6T Dry Heat Transdermal System is remarkably simple to use, the DHBF Cells (Dry Heat Bubble Free Cells) are constructed with molded Teflon donors and precision cut glass bodies. Skin is mounted between the cell cap (donor) and the cell body (receptor). The dermis is bathed from below with an isotonic saline solution injected through the bottom port, which flows thru the upper port to provide contact with no bubbles under the skin.

Temperature is maintained at 37ºC with a thermostatically controlled heater block. Users can easily insert the DHBF Cells into the cell slots, which will be maintained within ±.3°C of the set temperature. Homogeneous distribution of temperature in the saline bathing solution is accomplished by the agitating motion of a Teflon- covered magnetic stirring bar, driven by an external magnet, which is mounted on a timing motor.

The cell cap is open to the air, exposing the epidermis to the ambient conditions of the l aboratory environment. The open cap also allows for finite dose application of study compounds to the epidermis by use of a micropipette or stirring rod.

All the DHBF Cells are installed in a light protection chamber. The samples are taken from the bottom of each DHBF Cell with pre-mounted syringes prior to the media replacement. All the DHBF Cells tilt up while the media replacement is taking place to all ow all the bubbles to purge out.

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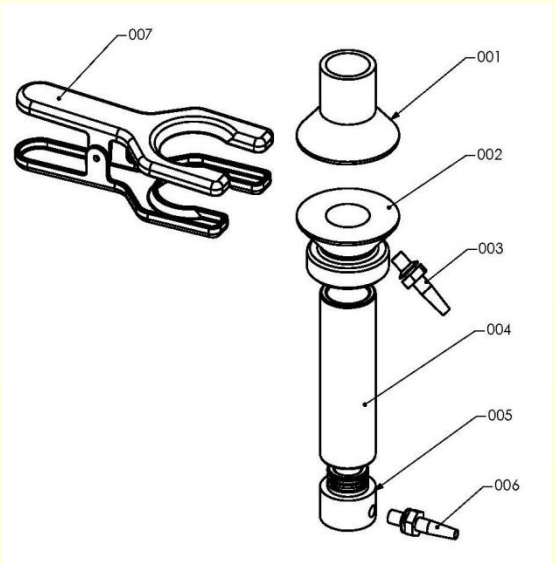
**For sampling, the cell sup port**
**plate lays flat**

**For media replacement, the**
**cell support plate tilts to purge the bubbles**

**Syringe manifold for easy sampling**




1. **DHBF Cell Donor**
2. **DHBF Cell Top**
3. **DHBF Cell Purge por t**
4. **DHBF Cell Body (Gla ss)**
5. **DHBF Cell Bottom**
6. **DHBF Cell Sampling port**
7. **S.S. Clamp**

**Dry Heat Bubble Free Cell (DHBF Cell)**

## DHC-6T SPECIFICATIONS

**Power requirements**:110V-120V 50/60 Hz or 220V-240V 50/60 Hz
**DHBF cell drive positions**……6
**Control zone**: Zone 1: Drive Position 1,2,3 Zone 2: Drive Position 4,5,6
**Stirring method**: Teflon coated magnetic bar
**Speed**……500 - 600 RPM
**Heater**:…….. 200 watts
**Temperature range** ……..… 25~45 °C
**Temperature accuracy**…….±.3°C

**Warranty** **Full 1-year standard warranty on complete system**

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# LOGAN FDC-6 Diffusion Cell Drive System

***Features:***

- Modular design for system expansion
- Easily to link up with automated device (optional) for precision sampling from Franz cells with automatic media replacement function
- User-friendly program with HPLC online system available
- Designed to test creams, lotions, ointments, and patches

## FDC-6 Transdermal Diffusion Cell Drive System

The FDC-6 Transdermal Diffusion Cell Drive Console is remarkably simple to use. Skin is mounted between the cell cap (donor) and the cell body (receptor). The dermis is bathed from below with an isotonic saline solution injected through a port provided for that purpose.

Temperature is maintained at 37ºC by thermostatically controlled water that enters the lower port of the water jacket and circulates out through an upper port. Warm water is supplied and circulated by two (upper and lower) manifolds that are connected to a constant temperature bath.

Homogeneous distribution of temperature in the saline bathing solution is accomplished by the agitating motion of a Teflon-covered magnetic stirring bar, driven by an external magnet and mounted on a timing motor.

The cell cap is open to the air, exposing the epidermis to the ambient conditions of the laboratory environment. The open cap also allows for finite dose application of study compounds to the epidermis by use of a micropipette or stirring rod.

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## Specifications

# FDC-6 SPECIFICATIONS

**Power requirements**..... 110 V – 120 V 50/60 Hz
or
220 V – 240 V 50/60 Hz

**Franz cell drive positions**..... 6

**Control Zone**..... Zone 1: Drive Position 1,2,3
Zone 2: Drive Position 4,5,6

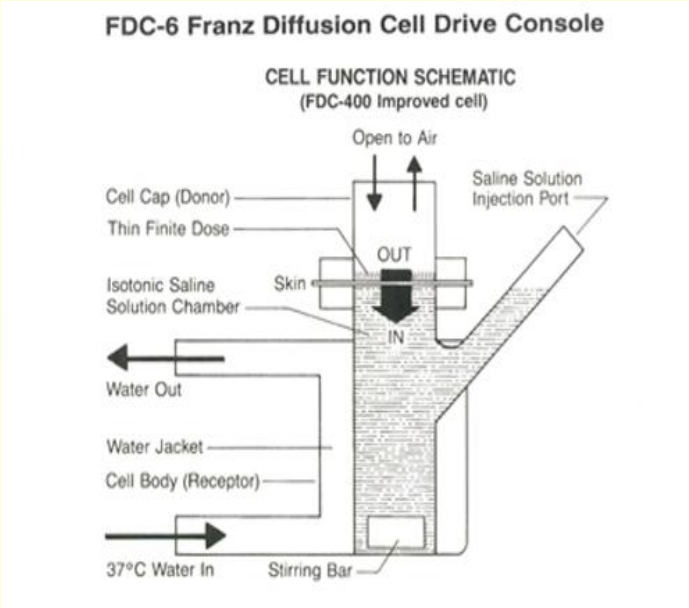
**Stirring Method**..... Teflon coated magnetic bar

**Speed**..... 500 - 600 RPM

**Heater**..... 700 Watts

**Temperature range**..... 25 - 45 °C

**Temperature accuracy**..... ± .1 °C




## Warranty

**Full 1-year standard warranty on complete system**

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# LOGAN SDC-6 Diffusion Cell Drive System

***Features:***

•Modular design for system expansion

•Easily to link up with automated device (optional) for precision sampling from Side by side cells with automatic media replacement function

•User-friendly program with HPLC online system available

•Designed to test gastrointestinal diffusion products

## SDC-6 Transdermal Diffusion Cell Drive System

The SDC-6 Transdermal Diffusion Cell Drive Console is remarkably simple to use. The intestine layer is mounted between the side-by-side cells (donor and receptor) and then hold by a SS clamp. The donor and receptor are bathed in water jackets from the outside. The formulation will be injected through a port on top of the donor cell, the top port of the receptor is for filling the blank and also for sampling. Both top ports are capped so that there is no exposure to the environment and ambient conditions.

Temperature is maintained at 37˚C by thermostatically controlled water that enters the lower port of the water jacket and circulates through an upper port. Warm water is supplied and circulated by two (upper and lower) manifolds that are connected to a constant temperature bath, where all 6 pairs of cells are heated uniformly.

Homogenous distribution of temperature in the saline bathing solution is accomplished by the agitating motion of a Teflon-covered magnetic stirring bar, which is driven by an external magnet. The magnetic stirrers are driven by a timing motor to make sure the rotation speed is the same for all 6 pairs of cells, the SDC-6 Drive Console has 2 zones; each zone is to control 3 pairs of Side-by-Side Cells.

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## Specifications

# SDC-6 SPECIFICATIONS

**Side-by–side cell drive positions…….** 6

**Control Zone……..** Zone 1: Franz Cell Position
Zone 2: Side-by-Side Cell Positions

**Stirring method……** Teflon coated magnetic bar

**Speed……...** 500 - 600 RPM

**Heater……...** 700 watts

**Temperature range……** 25 ~ 45° C

**Temperature accuracy……** ± .1° C

**Power requirements……** 110 V – 120 V 50/60 HZ
or
220 V – 240 V 50/60 HZ

**Samples of the Side by Side Cells**

## Warranty

**Full 1-year standard warranty on complete system**

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# LOGAN SFDC-6 Diffusion Cell Drive System

***Features:***

- **Modular design for system expansion**
- **Set up for 3 sets of Franz Diffusion Cells and 3 sets of Side-by-Side Cells**
- **Complete turn key system with temperature control system (water heater/circulator/tank)**
- **Designed to test creams, lotions, ointments, and patches**

## SFDC-6 Transdermal Diffusion Cell Drive system

The SFDC-6 Transdermal Diffusion Cell Drive Console is remarkably simple to operate; the system comes with the water heater and all the accessories. This drive console can operate 3 sets of Franz Diffusion Cells and 3 sets of Side-by-Side Cells. The SS console top is a good working surface for preparing the samples. For the Franz Cell, skin is mounted between the cell cap (donor) and the cell body (receptor). The dermis is bathed from below with an isotonic saline solution injected through a port provided for that purpose. For the Side-by-Side Cells, skin is mounted between 2 cells

Temperature is maintained at 32ºC or 37ºC by thermostatically controlled water that enters the water jacket of the cells. Warm water is supplied and circulated by two (upper and lower) manifolds that are connected to a constant temperature bath. Homogeneous distribution of temperature in the saline bathing solution is accomplished by the agitating motion of a Teflon-covered magnetic stirring bar, driven by an external magnet and mounted on a timing motor.

The SFDC-6 Drive Console has 2 zones; one is to control the stir of the Franz Cells and the other zone is for the Side-by-Side Cells.

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## Specifications

# FDC-6 SPECIFICATIONS

**Power requirements**..... 110 V – 120 V 50/60 Hz
or
220 V – 240 V 50/60 Hz

**Franz cell drive positions**..... 6

**Control Zone**..... Zone 1: Drive Position 1,2,3
Zone 2: Drive Position 4,5,6

**Stirring Method**..... Teflon coated magnetic bar

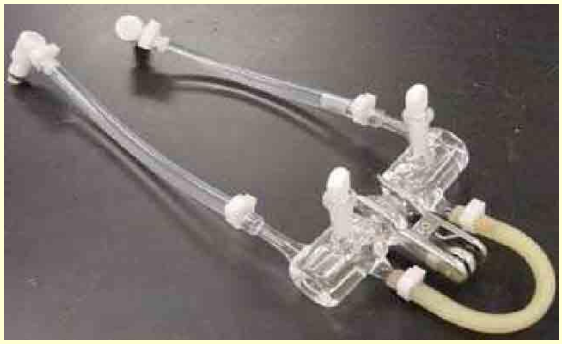
**Speed**..... 600 RPM

**Heater**..... 700 Watts

**Temperature range**..... 25 - 45 °C

**Temperature accuracy**..... ± .1 °C

**Horizontal Cells**



**Side by Side Cells Diagram**

## Warranty

**Full 1-year standard warranty on complete system**

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# LOGAN FDC-6T Diffusion Cell Drive System

***Features:***

- Modular design for system expansion
- Easily to link up with automated device (optional) for precision sampling from Franz cells with automatic media replacement function
- Designed to test creams, lotions, ointments, and patches
- Auto-tilt system to purge air bubbles

## FDC-6T Transdermal Diffusion Cell Drive System

The FDC-6T Transdermal Diffusion Cell Drive Console is remarkably simple to use. Skin is mounted between the cell cap (donor) and the cell body (receptor). The dermis is bathed from below with an isotonic saline solution injected through a port provided for that purpose.

Temperature is maintained at 37ºC by thermostatically controlled water that enters the lower port of the water jacket and circulates out through an upper port. Warm water is supplied and circulated by two (upper and lower) manifolds that are connected to a constant temperature bath.

Homogeneous distribution of temperature in the saline bathing solution is accomplished by the agitating motion of a Teflon-covered magnetic stirring bar, driven by an external magnet and mounted on a timing motor.

The cell cap is open to the air, exposing the epidermis to the ambient conditions of the laboratory environment. The open cap also allows for finite dose application of study compounds to the epidermis by use of a micropipette or stirring rod.

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## Specifications

# FDC-6T SPECIFICATIONS

| | |
|---|---|
| **Power requirements** | 110 V – 120 V 50/60 Hz<br>or<br>220 V – 240 V 50/60 Hz |
| **Franz cell drive positions** | 6 |
| **Control zone** | Zone 1: Drive Position 1,2,3<br>Zone 2: Drive Position 4,5,6 |
| **Stirring method** | Teflon coated magnetic bar |
| **Speed** | 600 RPM |
| **Heater** | 700 Watts |
| **Temperature range** | 25 ~ 45 °C |
| **Temperature accuracy** | ± .1° C |

**For sampling, the cell support plate lays flat**

**For media replacement, the cell support plate tilts to purge any bubbles**

**Syringe manifold for easy sampling**

## Warranty

**Full 1-year standard warranty on complete system**

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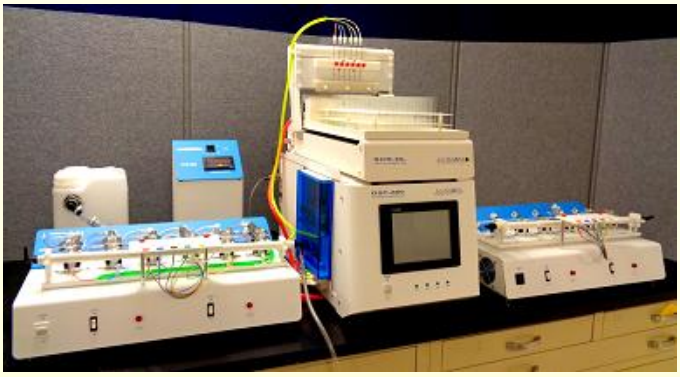
# LOGAN SYSTEM 913-12
# Automated Transdermal Sampling System



***Features:***

- **Take samples from 12 bubble free cells at up to 20 time points**
- **Open air system, no pressure build up during the tests, no leakage**
- **Syringe pump sampling system accuracy to ± 1 %**
- **Sampling takes place before media replacement to avoid sample dilution**
- **Printer for full report**

## 12 CELL AUTOMATED TRANSDERMAL SAMPLING SYSTEM

The LOGAN SYSTEM 913-12 is designed to save valuable time by delivering precise transdermal samples into HPLC vials automatically. The membrane is mounted between the cell cap (donor) and the cell body (receptor). The membrane is bathed from below by an isotonic saline solution. Temperature is maintained at 37°C by thermostatically controlled water which enters the lower port of the water jacket surrounding the saline solution chamber and circulates out through the upper port. Water is supplied and removed by two (upper and lower) stainless steel manifolds connected to a constant temperature bath.

Homogenous distribution of temperature in the saline bathing solution is accomplished by the agitating motion of a Teflon-covered magnetic stirring bar, driven by an external magnet mounted on a timing motor. The cell cap is open to the air, exposing the membrane's upper surface to ambient conditions. The open cap also allows for a finite dose application of the compound being studied.

The SYP Series Syringe Pump Module withdraws and measures sample volumes from transdermal diffusion cells at each time interval. Individual samples are dispensed simultaneously into HPLC vials that are stored in the SCT Series Sample Collectors. To avoid the sample dilution, the replacement of media takes place right after each sampling. The lift plate tilts all Franz cells to allow any the air bubbles to purge out of the cells while doing the media replacement. This will insure that there will be no air bubbles under the skin/patch; the tilted plate goes back to the horizontal position once the media replacement is complete and continues the test**.**

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# SYSTEM 913-12 Automated Transdermal Diffusion Cell Sampling System

## Specifications

### FDC-6T Diffusion Cell Driver Console X 2

**Cell position……6**
**Control zone……..2**
**Zone 1……. 1, 2, 3**
**Zone 2……. 4, 5, 6**
**Speed……600 rpm**
**Stirring…… Teflon-coated magnetic bar**
**Temperature control……25- 45° C ± 1**
**Heater……..700 Watt**
**Voltage…… 110 V/120 V 50/60 Hz**
**or**
**220 V/140 V 50/60 Hz**

### SYP-6LSyringe Pump X2

**High torque motor driven with encoder feedback loop**
**Controls up to (6) 5 ml syringes**
**Syringe accuracy: ± 1 % for transfer volume more than 1 ml**
**Maximum transfer volume: 5 ml (as per stroke)**
**Minimum transfer volume: .5 ml (as per stroke)**
**110/220 Volts, 50/60 Hz**
**Size: 15” × 13” × 20”**

### SCT–240L Sample Collector

**Tray A: 240 position collection for 16mm DIA sample tubes (150mm max)**
**Tray B: 240 position collection for Agilent/Shimadzu HPLC vials**
**6 samples per time point, 20 time points**
**Built-in replacement media reservoir**
**Size: 19” × 22” × 19”**

### DSC-800-2 Automatic Sampling Controller

**Controls the diffusion cell driver console, the transfer pump and sampler collector**
**Sampling interval within 4 minutes**
**Touch panel with color display**
**Link up with printer**
**Supplied with support rack**
**110/220 Volts, 50/60 Hz**
**Size: 6” × 6” × 10”**

### DEAR-0012 Degassing Station

**Vacuum 25in-Hg**
**Power 900 watts**
**Manual or PLC control**

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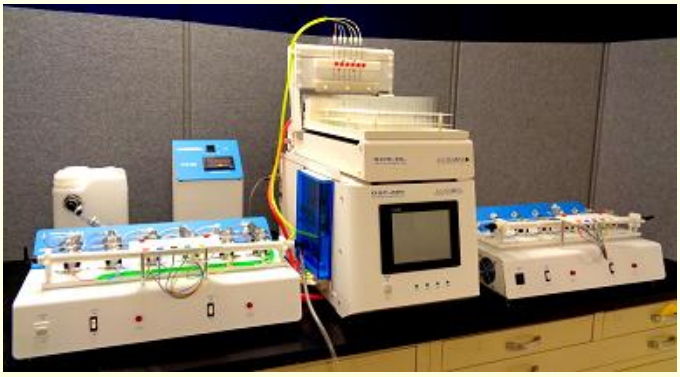
# LOGAN SYSTEM 914-12
# Automated Transdermal Sampling System



***Features:***

- **Take samples from 12 bubble free cells at up to 20 time points**
- **Open air system, no pressure build up during the tests, no leakage**
- **Syringe pump sampling system accuracy to ± 1 %**
- **Sampling takes place before media replacement to avoid sample dilution**
- **Printer for full report**

## 12 CELL AUTOMATED TRANSDERMAL SAMPLING SYSTEM

The Logan System 914-12 is designed to save valuable time by delivering precise transdermal samples into HPLC vials or sample tubes automatically. The DHC-6AT Dry Heat Transdermal Drive Console is remarkably simple to use, 6 DHBFC (Dry-Heat Bubble Free Cells) are surrounded by a thermostatically controlled heater block, where temperature is maintained at 32° or 37°C. DHBF Cells are constructed with molded Teflon donors and precision cut glass bodies. Skin is mounted between the cell cap (donor) and the cell body (receptor). The dermis is bathed from below with an isotonic saline solution injected through the bottom port, which flows thru the upper port to provide contact with no bubbles under the skin membrane.

Homogenous distribution of temperature in the saline bathing solution is accomplished by the agitating motion of a Teflon-covered magnetic stirring bar, driven by an external magnet mounted on a timing-motor. The cell cap is open to the air, exposing the membrane's upper surface to ambient conditions. The open cap also allows for a finite do se application of the compound being studied.

The SYP Series Syringe Pump Module withdraws & measures sample volumes from the transdermal diffusion cells at each time interval. Individual samples are dispensed simultaneously into HPLC vials that are stored in the SCR Series Sample Collectors. To a void sample dilution, the replacement media takes place right after each sampling. The lift plate tilts all Dry Heat Franz Cells to allow all the air bubbles to purge out of the cells while doing media replacement. This will insure that there is no air bubbles under the skin/patch ; the tilted plate goes back to the horizontal position once the media replacement is complete and continues the test.

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# SYSTEM 914-12 Automated Transdermal Diffusion Cell Sampling System

## Specifications

### DHC-6AT Diffusion Cell Driver Console X 2

**Cell position……6**
**Control zone……..2**
**Zone 1……. 1, 2, 3**
**Zone 2……. 4, 5, 6**
**Speed……500 / 600 rpm**
**Stirring…… Teflon-coated magnetic bar**
**Temperature control……25- 45° C ± 1**
**Heater……..200 Watt**
**Voltage…… 110 V/120 V 50/60 Hz**
**or**
**220 V/140 V 50/60 Hz**

### SYP-6LSyringe Pump X2

**High torque motor driven with encoder feedback loop**
**Controls up to (6) 5 ml syringes**
**Syringe accuracy: ± 1 % for transfer volume more than 1 ml**
**Maximum transfer volume: 5 ml (as per stroke)**
**Minimum transfer volume: .5 ml (as per stroke)**
**110/220 Volts, 50/60 Hz**
**Size: 15” × 13” × 20”**

### SCT–240L Sample Collector

**Tray A: 240 position collection for 16mm DIA sample tubes (150mm max)**
**Tray B: 240 position collection for Agilent/Shimadzu HPLC vials**
**6 samples per time point, 20 time points**
**Built-in replacement media reservoir**
**Size: 19” × 22” × 19”**

### DSC-800-2 Automatic Sampling Controller

**Controls the diffusion cell driver console, the transfer pump and sampler collector**
**Sampling interval within 4 minutes**
**Touch panel with color display**
**Link up with printer**
**Supplied with support rack**
**110/220 Volts, 50/60 Hz**
**Size: 6” × 6” × 10”**

### DEAR-0012 Degassing Station

**Vacuum 25in-Hg**
**Power 900 watts**
**Manual or PLC control**

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# Dissolution Accessories

Vessels

Baskets

Paddles & Shafts

Probes & Filters

Sinkers

## Sampling Holders/Cannulas/Probes

| Part No. | Description | Unit |
|---|---|---|
| 200-1001 | Filter Probe Holder w/ Fitting | 1 ea. |
| 200-1002 | Return Line Holder w/ Fitting | 1 ea. |
| 200-1003 | 80' Teflon Tubing 0.06 OD | 1 roll |
| 200-0475 | 4.75" Bent Cannula | 1 ea. |
| 200-0775 | 7.75" Bent Cannula | 1 ea. |
| 200-1004 | Automated Manifold Filter Probe | 1 ea. |
| 200-1005 | Filter Head Holder | 1 ea. |
| 800-1500 | Stationary Sampling Probes 500 ml | 1 ea. |
| 800-1502 | Stationary Sampling Probes 900 ml | 1 ea. |
| 800-1501 | Stationary Sampling Probes 1000ml | 1 ea. |
| | | |

## Filters

| Part No. | Description | Unit |
|---|---|---|
| 200-1010 | 1000 External Filter, 10 micron | 1 box |
| 200-1035 | 1000 External Filter , 35 micron | 1 box |
| 200-1070 | 1000 External Filter, 70 micron | 1 box |
| 200-2010 | 1000 Internal Filter, 10 micron | 1 box |
| 200-2045 | 1000 Internal Filter, 45 micron | 1 box |
| 200-2070 | 1000 Internal Filter, 70 micron | 1 box |
| 200-2090 | 1000 Internal Filter, 90 micron | 1 box |

## Heater & Water Tank

| Part No. | Description | Unit |
|---|---|---|
| VTC-200 | External Heater-Circulator | 1 ea. |
| 800-0065 | Seamless Water Bath | 1 ea. |

## Vessels

| Part No. | Description | Unit |
|---|---|---|
| 800-0140 | LOGAN Peak Vessel | 1 ea. |
| 800-0147 | 1000 ml. Amber Vessel | 1 ea. |
| 200-2045 | 1000 ml. Glass Vessel | 1 ea. |
| 800-1505 | 900 ml. Plastic Clear Vessel | 1 ea. |
| 800-1506 | 900 ml. Plastic Amber Vessel | 1 ea. |
| 800-1507 | 500 ml. Glass Vessel | 1 ea. |
| 800-0123 | 300 ml. Glass Vessel | 1 ea. |

## Vessel Covers

| Part No. | Description | Unit |
|---|---|---|
| 800-0135 | Flat Vessel Cover, with Holes | 1 ea. |
| 800-0139 | Flat Type w/o Holes | 1 ea. |
| 800-0156 | Vessel Cover Hinge Type | 1 ea. |
| 800-0150 | Amber Hinge Vessel Cover | 1 ea. |

## Sinkers

| Part No. | Description | Unit |
|---|---|---|
| 800-0148 | Cage Sinker | 1 ea. |
| 800-0151 | Sinker Basket Assembling | 1 ea. |
| 800-0152 | Three Prong Sinker | 1 ea. |
| 800-1511 | 2S Spiral Uncoated 316SS Capsule Sinker .90x.37 inch Capacity | 1 ea. |
| 800-1512 | 4S Spiral Uncoated 316SS Capsule Sinker 1.02x.38 inch Capacity | 1 ea. |
| 800-1513 | 1.0"L x .575"ID W 316SS Capsule Sinker | 1 ea. |
| | | |

## Paddles/Baskets/Shafts

| Part No. | Description | Unit |
|---|---|---|
| 800-0068 | S.S. 316 Paddle & Shaft | 1 ea. |
| 800-0059 | S.S. 316 Paddle Blade | 1 ea. |
| 800-0113 | S.S. 316 Shaft 17.50" | 1 ea. |
| 800-0111 | S.S. 316 PTFE Coated Shaft | 1 ea. |
| 800-0112 | Solid PTFE Paddle | 1 ea. |
| 800-0157 | 40 Mesh Basket & Shaft Ass'y | 1 ea. |
| 800-0153 | 40 Mesh Basket Ass'y | 1 ea. |
| 800-0154 | 40 Mesh Basket only | 1 ea. |
| 800-0138 | Basket Head Ass'y | 1 ea. |
| 800-0110 | Basket Shaft Clip Type 17" | 1 ea. |
| 800-0155 | 10 Mesh Basket | 1 ea. |
| 800-0157 | 20 Mesh Basket | 1 ea. |
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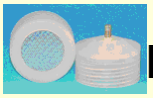
## Volumetric Flasks

| Part No. | Description | Unit |
|---|---|---|
| 600-2000 | 500 ml. Volumetric Flask- Class A 20 C (Round) | 1 ea. |
| 600-2001 | 900 ml. Volumetric Flask- Class A 20 C (Round) | 1 ea. |
| 600-2002 | 1000 ml. Volumetric Flask- Class A 2 0C (Round) | 1 ea. |
| 600-2003 | 500 ml. Volumetric Flask- Class A 37 C (Round) | 1 ea. |
| 600-2004 | 900 ml. Volumetric Flask- Class A 37 C (Round) | 1 ea. |
| 600-2005 | 1000 ml. Volumetric Flask- Class A 3 7C (Round) | 1 ea. |

## Paddles/Baskets/Shafts

| Part No. | Description | Unit |
|---|---|---|
| 800-0158 | Calibration Ball | 1 ea. |
| 800-0068 | Hole Plug | 1 ea. |
| 800-0238 | Centering Ring | 1 ea. |



# DISSO III Tester Accessories and Parts

| Part No. | Description | Unit |
|---|---|---|
| 303-1050 | Evaporation Cover-PVC | 1 ea. |
| 303-1051 | Inner Sampling Tube- 100 ml. | 1 ea. |
| 303-1052 | Inner Sampling Tube- Amber 100 ml. | 1 ea. |
| 303-1053 | 300ml. Outer Glass-Non Graduated | 1 ea. |
| 303-1054 | 300 ml. Outer Glass- Graduated | 1 ea. |
| 303-1055 | 300 ml. Outer Glass Amber | 1 ea. |
| 303-1056 | Lower Cap | 1 ea. |
| 303-1057 | Upper Cap | 1 ea. |
| 303-1058 | Upper & Lower Cap Set | 1 ea. |
| 303-1059 | Logan Lower Cap | 1 ea. |
| 303-1060 | Tube Shaft | 1 ea. |
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| Part No. | Description | Unit |
|---|---|---|
| 303-1061 | SS Screen- 20 Mesh | 1 ea. |
| 303-1062 | SS Screen- 30 Mesh | 1 ea. |
| 303-1063 | SS Screen- 40 Mesh | 1 ea. |
| 303-1064 | Polypropylene Screen- 100 Mesh | 1 ea. |
| 303-1065 | Polypropylene Screen- 20 Mesh | 1 ea. |
| 303-1066 | Polypropylene Screen- 30 Mesh | 1 ea. |
| 303-1067 | Polypropylene Screen- 40 Mesh | 1 ea. |
| 303-1068 | Sampling Probe set | 1 ea. |
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