

# SYSTEM 914

## Automated Transdermal Sampling System

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The Logan System 914 is designed to save valuable time by delivering precise transdermal samples into HPLC vials or sample tubes automatically. This system includes the DHC-6AT transdermal diffusion cell drive console(s) and the SYP series Syringe Pump(s), the DSC-800 System Controller and the SCR-DL Sample Collector.

For laboratorial studies, the membrane is mounted between the DHBFC (Dry-Heat Bubble Free Cell) cell cap (donor) and the cell body (receptor) and inserted into the DHC-6AT heater block where the temperature can be maintained at a target temperature from room temperature to 45°C. DHBFCs are constructed with molded Teflon donors and a precision cut glass body, which has been patented. The DHBFCs have a tiny vent hole on top of receptor chamber. The DHC-6AT tilts the DHBFCs when replacement media enters into the cell to let air bubbles automatically purge out thru the vent hole while the solution enters the lower port. This patented design insures that there are no air bubbles under the skin/patch. The tilted plate returns to the horizontal position once the media replacement is completed and continues the test.

Homogenous temperature distribution 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.

At the sampling point, the DSC-800 System Controller commands the SYP Series Syringe Pump(s) to withdraw and measure sample volumes from the transdermal diffusion cells at each time interval. Individual samples are dispensed simultaneously into HPLC vials or glass tubes, which are stored in the SCR Series Sample Collector(s). To avoid sample dilution, the replacement media takes place right after each sampling. In some cases, when the sample in the donor must be sealed, a round glass disk is provided for this type of application. This system also provides different sized gaskets to control the test sample volume. The SYSTEM 914 can be configured with 6 cells as the SYSTEM 914-6 or with 12 cells as the SYSTEM 914-12.



Dry Heat Bubble Free Cells (DHBFC) designed to test creams, lotions, ointments and patches



Takes samples from 6 or 12 bubble free cells for up to 20 sampling time points



CFR 21 Part 11 compliance control program



Printer for full report



Heater block covers for insulation and light sensitive products



Syringe pump sampling system accuracy of  $\pm 1\%$



DEAR-1200 online degassing system



LOGAN SYSTEM 914-6

### DHC-800 / SYP-6 / SCR-DL Specification

Syringes	6 or 12
Syringe Volume	10mL
Syringe Type	Zero Dead volume
Volume accuracy	+/- 0.1 mL
Plunger Speed	fixed
Samples	240
Tray Row	12
Tray Column	20
Power DSC-800T	115 VAC 10 AMP 50/60 Hz 220 VAC 5 AMP 50/60 Hz
Power Auto-sampler	115 VAC 10 AMP 50/60 Hz 220 VAC 5 AMP 50/60 Hz

### DEAR-1200 Degassing Station Specification

Vacuum	Maximum 25in-Hg
Drive	Single Phase AC Motor
Power	90 Watts
Control	Manual or PLC Control
Tubing Size	3/8" ID Rigid Tubing
Voltage	110VAC/60Hz or 220VAC/50Hz/60Hz
Flow Rate	31 Liter Open Flow

### DHC-6AT Specification

Drive position:	6 or 12
Cell Position:	6 or 12
Cell Volume	7 - 12 ml
Control zone	1 or 2
Speed	500RPM at 50 Hz, 600RPM at 60 Hz
Stirring:	Magnetic Drive
Heater:	150 W
Power:	115 VAC 10 AMP 50/60 Hz 220 VAC 5 AMP 50/60 Hz
Zone 1	Position 1,2,3,
Zone 2	Position 4,5,6,
Tilting Angle	About 30 ° from surface
Temperature Control	25 to 45 °C



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