| Title: Daily and Weekly Cleaning Protocol for BioDot Dispensers | | | Owner: Support |
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| Doc No: SI 600-01 | Revision: A | Rev Date: 22 Feb 2018 | Effective Date: 01 Mar 2018 |

**Revisions:**

| Revision: | ECR No: | Date: | Description of Change: | Originator: |
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| A | 11651 | 22 Feb 2018 | Initial Release | Anthony Tran |

## 1.0 Purpose

Standard daily and weekly routines for cleaning BioDot instrument fluidic channels are described. Use of a regular routine for cleaning BioJet/Airjet/Frontline/PolyDrop dispensers and their associated tubing, syringes, and dispense nozzles promote optimum performance and prolong the lifetime of components. To minimize clogging of the BioJet micro-solenoid valves and the operator's necessity of performing mechanical cleaning (e.g., sonication, backflushing) which can damage the valve, daily and weekly cleaning regimes should be established.

## 2.0 Scope

This general cleaning protocol applies to all BioDot liquid dispensing instruments and to all operators of the instrument. However, the user must validate cleaning and decontamination procedures to ensure suitability for specific applications. The user should also select and substitute cleaning agents used based on the solubility properties of materials dispensed.

## 3.0 Reference

NA

## 4.0 Responsibilities

The customer is responsible for damages to system components that may occur while performing the protocol. It is the responsibility of the customer to adhere to these cleaning procedures as a minimum standard for maintenance of the BioJet dispenser. Deviations from this protocol may result in compromised system performance.

## 5.0 Definitions

NA

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## 6.0 Procedure

### 6.1 Daily Cleaning

To obtain optimum performance and maximum life from BioJet dispensers, it is recommended that the routine cleaning procedure listed below be followed after each period of use (at least once daily). The number of priming cycles used to move cleaning/rinsing agents (detergent, ethanol, or water) through the system should be adequate to expose all channel components to at least 2.5mL of each solution used during the cleaning process (e.g. 10 prime cycles with a 250ul syringe). With frequent cleaning, the reagent reservoirs and feed lines are reusable and may be used for extended periods of time before replacement is warranted.

6.1.1. Purge supply lines of reagent with backing solution (de-ionized water or dilute buffer).

6.1.2. Clean and refill the supply reservoir with deionized water containing 0.05% Bio-terge. The actual concentration of this anionic surfactant-containing detergent should be scaled to the amount and nature of reagents dispensed. Protein and nucleic acid concentrations in excess of 1 mg/mL require elevated amounts of detergent. Prime dispenser(s) to fill system.

6.1.3. Repeat steps 6.1.1 and 6.1.2 with deionized water.

6.1.4. If introduction of air is observed during cleaning, the system can be de-gassed with 100% (>99.5%) EtOH or IPA. Prime with alcohol followed by (vacuum degassed) deionized water or backing solution.

### 6.2 Weekly Cleaning

After prolonged dispensing of reagents, some buildup of protein, salts, latex materials, or other particulate matter may occur. It is recommended that the following cleaning steps be followed on a weekly basis to dissolve any accumulated materials. This should be performed in addition to the daily cleaning procedure. This method is also of particular value in helping to prevent cross-contamination when dispensing multiple reagents from a single BioJet channel.

6.2.1. Purge supply lines of reagent with backing solution (de-ionized water or dilute buffer).

6.2.2. Prime to fill the entire fluid path with 2% BioDot Jet Wash II and let stand for 30 minutes.

6.2.3. Prime detergent from the system with at least 2.5mL of water.

6.2.4. Remove the glass syringe from the syringe pump.

6.2.5. Remove the plunger from the syringe and flush deionized water through bottom of syringe and wash the plunger in deionized water or water with detergent, being careful not to damage the plunger seal.

6.2.6. Reassemble channel components, degas with alcohol, and restore priming/backing solutions or leave system dry.