

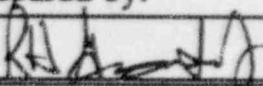
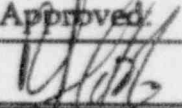
Applied Radiological Control, Inc.

CHEMISTRY PROCEDURE

TITLE Operation of the B-Pure Cartridge System

NUMBER 9.0

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APPLIED RADIOLOGICAL CONTROL, INC.

CHEMISTRY PROCEDURE 9.0

9.0 OPERATION OF THE B-PURE PRESSURE CARTRIDGE SYSTEM

9.1 Discussion

The B-Pure Cartridge system consists of two in-line water treatment cartridges and a resistivity meter. A varistaltic pump is used for transfer of water through the system (consult ARC Chem procedure 10.0 for instructions). One 9 liter polyethylene carboy with spigot is used as the supply reservoir for distilled water and one 20 liter polyethylene carboy with spigot is used as the supply reservoir of deionized water (DI).

The resistivity measurement in the dual holder B-Pure is accomplished with an in-line digital readout meter and integral cell. The resistivity meter measures the specific resistance of the water on a scale of 0.1 to 18.3 megohm-cm. The resistivity measurement is automatically compensated to 25°C regardless of system water temperature.

9.2 Reference

Barnstead B-Pure Pressure Cartridge System Operation Manual

9.3 Initial Operation

9.3.1. Installing Water Treatment Cartridges

- a. Remove the cartridge from the bag.
- b. Remove the canister from the head by depressing the thumb lever and rotating the hand ring $\frac{1}{4}$ turn to the left.
- c. Check to ensure that the small O-ring inside of the head is in place. This is important because water will bypass the cartridge if this O-ring is not in place.
- d. Place cartridge in canister with the large opening down.

- e. Wet canister O-ring before installation. Install canister by depressing thumb level and rotating $\frac{1}{4}$ turn to the right, until the locking pin is in appropriate position.

CAUTION: Secure locking pin before operating. Locking pin on canister must be fully released into hole in head before system is operated.

9.3.2 Filling Procedure

After every cartridge exchange, some air will be trapped in the system. Air should be purged before routine use by the following procedure:

- a. Place the tygon tubing connected under the outlet valve, to a drain or the distilled water carboy.
- b. Open the outlet valve.
- c. Open the spigot on the distilled water carboy.
- d. Start the varistaltic pump, set flow rate control knob at "3".
- e. When there is steady flow from the outlet valve, close the outlet valve.
- f. Plug the resistivity meter into service.
- g. Open the outlet valve and allow water to flow through the system until desired purity is reached.

9.4 Operation

- 9.4.1 Open the spigot on the distilled water carboy.
- 9.4.2 Open the outlet valve.
- 9.4.3 Start the varistaltic pump, set flowrate control knob at "3".
- 9.4.4 Plug the resistivity meter into service.
- 9.4.5 Recirc the system effluent to the distilled water carboy until the resistivity meter indicates 17.0 megohm-cm.
- 9.4.6 System effluent is now acceptable for the DI carboy. Place tygon tubing connected under the outlet valve from the distilled water carboy to the DI carboy.

9.4.7 After sufficient DI water has been processed, secure the system as follows:

- a. Shut off varistaltic pump
- b. Close outlet valve
- c. Unplug resistivity meter
- d. Remove system effluent tubing from the DI carboy

NOTE: Consult operation manual for maintenance and servicing the B-Pure Pressure Cartridge System.