



HIGH PURITY TECHNOLOGY, INC.

50 PERSHING AVENUE * P.O. BOX 870
POUGHKEEPSIE, N.Y. 12602-0870
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PROCESS SPECIFICATION

HPT- 420

CLEAN "PFA" FOR HIGH PURITY SERVICE

1.0 SCOPE:

- 1.1 This specification describes the "PFA" cleaning procedure used at "High Purity Technology Inc." for the cleaning of pipe, coils, fittings, valves and other components for high purity service.

2.0 PIPING PROCEDURE:

- 2.1 Rinse components with water to remove loose soil, dirt and grime.
- 2.2 Wipe external surfaces with acetone to remove ink markings and surface smudges.
- 2.3 Soak pipe in a continuously circulating detergent deionized water solution at 0.01 percent "Triton x 100" for a minimum of five minutes. Scrub and clean interior using soft nylon brushes.
- 2.4 Rinse in a continuously flowing D/I water bath. D/I water to be filtered with 0.2 micron filters. A minimum of two rinse stages shall be used. Final rinse stage shall have a resistance greater than 14 megohm at all times.
- 2.5 Utilizing Nitrogen propel a swab through the piping to remove excess water, inspect swab, repeat cleaning if smudging appears on swab.
- 2.6 Wad pipe using Kleenwipe soaked in isopropyl alcohol and filtered nitrogen. Continue wadding until dry Kleenwipe shows clean. Purge pipe with 0.05 micron filtered nitrogen. Cap pipe ends while under purge using clean 6 mil polyethylene bags. Secure bags to pipe with rubber bands. Bag to extend a minimum of 6 inches along pipe.
- 2.7 Label piping certifying cleaning by High Purity Technology, Inc.

3.0 COIL PROCEDURE:

- 3.1 Pressure pump (at 70 - 90 PSI) and re-circulate the "Triton x 100" solution for a minimum of thirty minutes.
- 3.2 Rinse with D/I water filtered with 0.2 micron filters in a clean area. A minimum of two rinse stages to be used with final rinse output monitored to a resistivity greater than 14 megohm.
- 3.3 Flush coil with isopropyl alcohol, wiping ends with swabs soaked in alcohol. Inspect dry swabs for smudge traces or contaminates. Re-clean if necessary.
- 3.4 Purge dry coil with 0.05 filtered nitrogen. Apply caps or clean 6 mil polyethylene bags to coil ends while under purge.
- 3.5 Label coil certifying cleaning by "High Purity Technology, Inc"



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4.0 FITTINGS, VALVES AND MISC. COMPONENT PROCEDURES:

- 4.1 Submerge component in a continuously circulating detergent - deionized "Triton x 100" water solution a minimum of five minutes. Use soft nylon brushes to clean wetted surfaces.
- 4.2 Rinse component in a re-circulating D/I water bath. A minimum of two rinse stages shall be used. The final rinse stage to have a monitored resistivity greater than 14 megohm.
- 4.3 Wipe wetted surfaces with Kleenwipes soaked in isopropyl alcohol. Inspect swabs for smudging or contaminates. Re-clean if necessary.
- 4.4 Purge dry with 0.05 filtered nitrogen. Re-assemble component, purging the complete assembly. While under purge, apply caps or clean 6 mil polyethylene bags. Place component in 6 mil polyethylene sleeve and heat seal ends.
- 4.5 Label component certifying cleaning by "High Purity Technology, Inc."

(End)