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Operating Instructions for N-6/A-6 Single Stage Air Sampler

Purpose:

The purpose of the Anderson N6/Aerotech 6 is to separate organisms from the air in order to conduct a viable assay to assess the quality of indoor air.

Principle:

The Anderson N6 viable particle sampler is an aluminum device held together by three spring clamps and sealed with two O-ring gaskets. The impactor stage contains 400 precision-drilled holes. When air is drawn through the sampler, multiple jets of air in the stage direct any airborne particles toward the surface of the agar collection surface beneath the stage. A constant air sample flow, controlled by an adjustable valve on the pump, of 1 ACFM is provided by a continuous duty vacuum pump.

Materials:

Anderson N6/Aerotech A6 Sampler
Vacuum Pump
Rotameter
Timer
Gilibrator
Flexible Tubing – ¼" I.D. X 3/8" OD
Sampling Media
Isopropyl Alcohol Pad
Sterile Gauze
Writing Utensil
Electrical Tape
Field Calibration Adapter
Field Rotameter

Procedure:

1. Clean hands with an isopropyl alcohol pad and at any point where cross contamination is possible. (Use aseptic techniques throughout the collection procedure.)
2. Connect the flexible tubing from the pump to the male connector on the sampler. If rented from U.S. Micro-Solutions, Inc, the sampler-pump assembly has been calibrated in-line to 1 ACFM (28.3L/min.) or the requested volume.
3. Prior to sampling, wipe all surfaces of the sampler (inlet cone, classification stage and base plate) with isopropyl alcohol and dry with sterile gauze.
 - a. Inlet Cone – cone shaped piece with 25-26mm I.D. hole
 - b. Classification Stage – round piece with 400 pinpoint holes
 - c. Base Plate – the round piece with 3 raised prongs
4. With the sampler sanitized and the inlet cone and jet classification stage removed, place an agar plate with its lid removed so the agar side of the plate rests on the three raised metal pins. (All agar plates should be at room temperature prior to use.) Immediately cover the plate with the jet classification stage and inlet cone. Secure the device with the three spring clamps and visually check to ensure a good seal.

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5. Set an external timer for the desired time and turn on the vacuum pump. (Normal sampling for viable aerosols will vary from one to ten minutes, depending on the purpose for which the sample is collected and the type of air environment being sampled.)
6. After sampling, turn off the pump, unhook the three spring clamps and remove the agar plate. Quickly replace the agar plate lid and label it.
7. Seal the perimeter of the plate with electrical tape, place it in a zip lock bag and ship it at 2-8 °C to the laboratory within 24 hours.
8. Repeat steps 1-6 for each additional sample.
9. Reassemble the sampler prior to returning it to the laboratory.

Quality Control:

1. For best industrial hygiene practice, it is best to calibrate equipment immediately prior to and following any sampling event.
2. Submit a blank unexposed plate with each sampling event to serve as a negative control.
3. Collect an outdoor sample for comparison to indoor samples.
4. Collect an indoor control sample from a non-complaint area.

Limitations:

1. Failure to follow the instructions above may lead to erroneous results.

References:

Aerotech 6 Operating Manual: 2020 W. Lone Cactus Dr., Phoenix, Arizona 85027

Andersen Microbial Sampler Operations Manual: 500 Technology Ct., Smyrna, Georgia 30082-5211

****Ship Sampler by Standard Overnight air.**