

Zefon Inner Wall Sampling Attachment Instructions

Background

Wall Cavities have been identified as sources of microbial contamination. Growth of this contamination can occur as a result of water damage or construction defects. Assessment of this contamination is necessary in many cases and reducing the amount of destruction while doing so is important. The Zefon inner wall sampling attachment provides these features in a simple tubing attachment that works in conjunction with Air-O-Cell®, Via-Cell® and MoldSNAP™ cassettes.

Application and Interpretation

The inner wall sampling attachment is used to non-destructively assess microbial contamination within a wall cavity. As with all microbial investigations, interpretation of the results are subjective and should be based on comparing total numbers from both suspect and control locations.

The inner wall attachment must be used in accordance with the instructions in order to obtain accurate representative samples. Not following directions may present some limitations on the cassette. For example, data interpretation may be impacted based on the sample location. Total counts may vary in different types of wall cavities such as a 4" wall and a 12" plumbing wall because of the difference in volume of air within the cavity. Another factor to consider is the moisture level in suspect areas. Excessive moisture can inhibit microbial contamination from becoming airborne. Finally, if gypsum dust is trapped inside the cassette, accurate microscopic analysis cannot be performed due to the masking of the mold spore by the gypsum dust. Following the outlined procedure will help minimize the collected dust when using this device.

Sampling Procedure

1. Calibrate your sampling pump to the desired flow rate. Zefon recommends 15 liters per minute for Air-O-Cell® and Via-Cell® cassettes and 5 liter per minute for MoldSNAP cassettes.
2. Select a location on the suspect wall approximately 3-6 inches from the floor. If possible, choose an inconspicuous location such as behind a baseboard.
3. Drill a 3/8" hole into the wall with a hand drill. Take care to move slowly; this will minimize the aerosolization of gypsum dust.
4. If the wall cannot be penetrated with the hand drill (i.e. wood paneling), a low speed cordless drill set on the lowest possible speed may be used. High speed drilling will increase the aerosolization of dust.
5. Once the hole is drilled, gently insert the end of the inner wall sampler into the hole. Leave the cap on the end of the tube when inserting into the wall. This is done to prevent the tube from filling with dust as it is inserted into the wall.
6. Insert a plunger rod into the inner wall sampler and push until the cap on the end of the tube is removed. (Plunger rods are available for sale or you may fabricate one using a coat hanger.)
7. Remove the tape seals or plugs from the cassette. Save the tape seals or plugs to reseal the cassette after sampling.
8. Connect the inner wall attachment to the rectangular opening end (inlet) of the cassette and then connect the round opening end (outlet) of the cassette to the pump.
9. Turn on the pump and collect a sample for 1-2 minutes.
10. Remove the cassette. Before replacing the tape seals or plugs, hold the cassette up to a bright light and see if you can still see through the slide. If you cannot see through it, the cassette is "overloaded" and the laboratory will not be able to analyze the sample. Discard that sample and take another sample using a shorter sampling time (typically half the time of the first sample). Repeat again if still overloaded.
11. Reseal the cassette with the tape seals or plugs.
12. Complete any required laboratory documentation.
13. Send cassette to laboratory for analysis