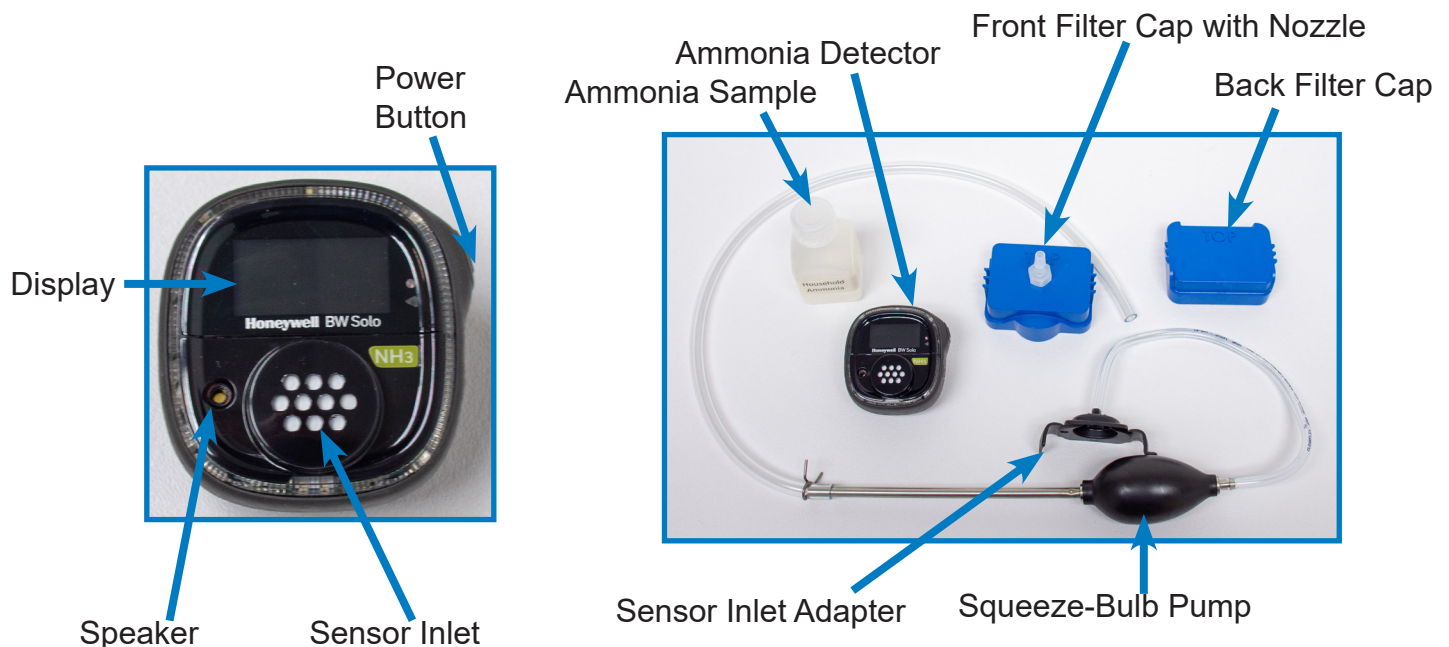


Optimice SOP - Ammonia Sampling Kit

Introduction

The Animal Care Systems ammonia sampling kit contains an electronic ammonia detector, a test bottle of ammonia solution, a squeeze-bulb pump, and a set of Optimice® filter nozzle/cap. The pump extracts air from the cage and pipes it into the detector for measurement.

The ammonia detector's calibration is valid for 180 days from the shipment date. Contact Animal Care Systems for information about recommended service providers.



Detector Preparation

1. Press and hold the button on upper-right side to turn on the detector. The startup process includes brief alarming light and sound.
2. Open the included bottle of ammonia, and position the detector's sensor inlet above the open bottle (Figure 1) until 10 to 15 parts per million. Readings above 25 ppm will trigger the alarm, which will subside below 25 ppm.



Figure 1

Connecting Detector to Cage

Animal Care Systems recommends taking samples from the rear inlet because that is the air direction during normal operation. The cage top should remain closed for **at least 15 minutes** before sampling.

1. Connect the squeeze-bulb pump to the front inlet nozzle using the longer, thicker tubing (Figure 2).
2. Snap the sensor inlet adapter onto the sensor inlet using both hands to secure it (Figure 3).
3. Remove an Optimice® cage from a rack, and place it on a stable surface (Figure 4).
4. Brace the front of the cage, and insert the front filter cap with nozzle onto the front filter inlet (Figure 5).
Ensure the rounded part of the nozzle interacts with the thumb rest of the filter opening; also make sure the fit is tight and that there are no obvious gaps.



Figure 2



Figure 3

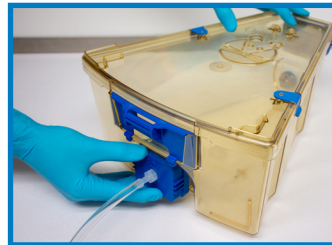


Figure 4

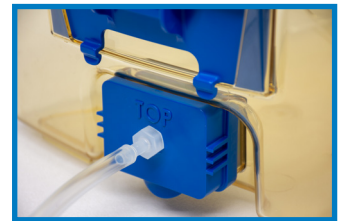


Figure 5

Taking Samples

Squeeze slowly and steadily (Figure 6) for between 30 to 45 seconds until the detector's value is stable. Aim for each squeeze and release to take 1 second apiece. If the value is zero after 45 seconds, the ammonia concentration within the cage is below 4 ppm, which is the minimum detection threshold.

The margin of error equation is $\pm(1 + 5\% \text{ of total value})$.

Example: If the detector displayed 10 ppm: $1 + (0.05 \times 10) = 1 + 0.5 = \pm 1.5 \text{ ppm}$.

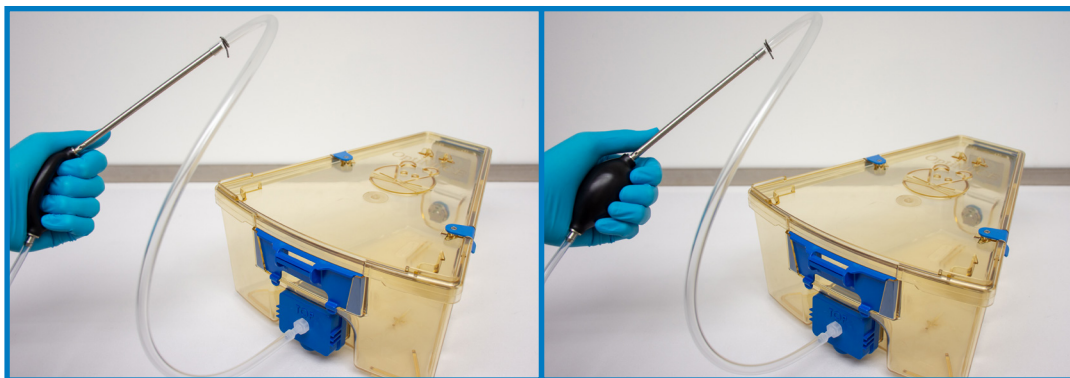


Figure 6

Nozzle Removal

1. Brace the cage with one hand.
2. Rock the nozzle from side to side while pulling away from the cage (Figure 7).

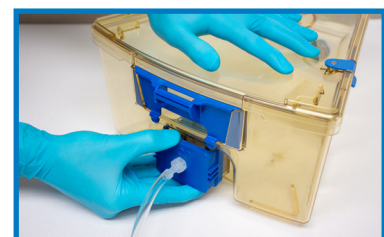


Figure 7