

Product Maintenance

FinePointe WBP



Contents

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Overview	1
Tubing.....	2
Calibrator Tubing	2
Bias Flow Filter, Tubing, and Isolation Resistor	2
Screens.....	3
Pneumotach Screen Replacement.....	3
O-Rings.....	4
22mm Port O-Ring	5
Transducer O-Rings.....	5
H ₂ O Bottle O-Ring	5
Pneumotach O-Rings.....	5
Chamber O-Ring	5
Bias Flow Adaptor O-Ring.....	5
Miscellaneous	5
Nebulizer Heads	5
Calibration	6
Replacement Kit Summary	6

Product Maintenance

FinePointe WBP

Overview

As you use your FinePointe WBP system, some parts will wear out and may need to be replaced. Proper care and maintenance will help ensure consistent results and that your equipment investment will last for years.

Consider replacing/servicing the following components on a scheduled basis:

Tubing:

- Calibrator Tubing
- Bias Flow Filter, Tubing, and Isolation Resistor

Screens:

- Pneumotach Screens

O-Rings:

- 22mm Port O-ring
- Transducer O-rings
- H₂O Bottle O-ring
- Pneumotach O-Rings
- Chamber O-Ring
- Bias Flow Adaptor O-Ring

Miscellaneous:

- Nebulizer

The frequency of replacement will depend on a variety of factors that may include: testing environment, frequency of use, aerosol exposure, and proper care of equipment throughout. Good Laboratory Practices (GLP) and routine equipment maintenance/servicing are recommended. At a minimum, tubing and screens should be replaced annually. See FPWBP Application Manual for proper care and cleaning of the FinePointe WBP system.

Tubing

This section will depict the various tubing that may need to be replaced on your FinePointe WBP System. Tubing should be free from cracks, moisture, and deposits.

Calibrator Tubing

- Calibrator tubing connects the Calibrator to the back panel of the FinePointe WBP Control Unit and is used to properly calibrate the apparatus

- Calibrator tubing

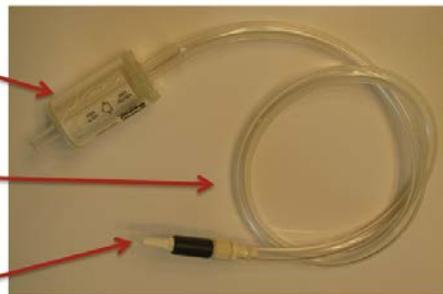


- Replacement part number: 601-2524-061

Bias Flow Filter, Tubing, and Isolation Resistor

- Tubing should be free from cracks, moisture, and deposits
- Over time, filters will become obstructed and will need to be replaced

- In-Line Coalescing Filter
- 3/16" ID, 5/16" OD Tubing
- Isolation Resistor



- Replacement part number: 601-2522-007 (In-Line Coalescing Filter, Tubing, and Isolation Resistor)
- Replacement part number: 601-2522-004 (In-Line Coalescing Filter Only)
- Replacement part number: 601-2522-002 (Isolation Resistor Only)

Screens

This section of the product maintenance guide depicts how to replace pneumotach screens. These fine mesh screens mounted in the plexiglass pneumotachographs on the side of the animal chamber provide the stable resistance elements necessary to accurately monitor the breathing waveform of the animal. The resistance element is part of the transducer/preamplifier circuit that when calibrated, provides a waveform that the software analyzes during the course of the experiment. When these screens become contaminated due to environmental dust and ordinary usage over an extended period, the resistance provided by the screens can change. As the resistance of the screens changes, the effective range obtained during calibration will change. When the effective range begins to shrink, this is a good indication that the pneumotach screens are dirty and should be replaced.

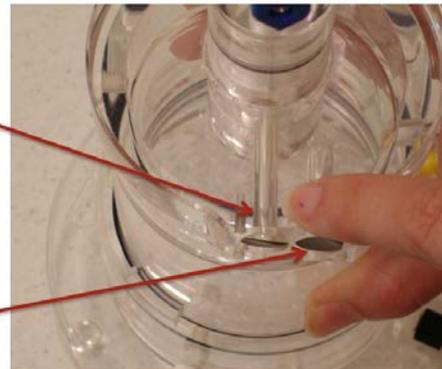
Pneumotach Screen Replacement

- Using a hex wrench, remove the four stainless steel screws that hold the pneumotachograph cover in place



- **STOP!! IMPORTANT!!** Note the number of screens removed one each side and insert an identical number of new screens. Under most circumstances, there will be more screens connecting to the reference chamber compared to the number of screens connecting to the animal chamber. Be careful not to crimp or bend the screens

- Pneumotach connected to animal chamber
- Pneumotach connected to reference chamber



- After removing the cover, tilt the plethysmograph and the screens will fall out
- If necessary, remove and replace pneumotach O-rings
- Replace the pneumotach covering and screw it back into place

- Replacement part number: 601-2524-060 (mouse – quantity 20)
- Replacement part number: 601-2524-059 (rat/guinea pig - quantity 20)



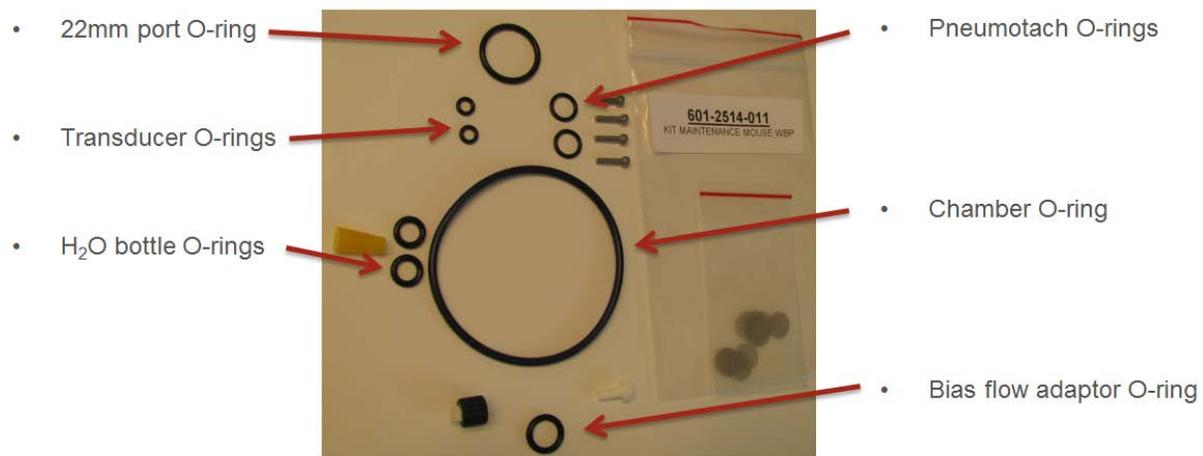
O-Rings

O-rings provide a seal between two removable components. O-rings should be free from cracks, debris, and excessive wear.

Replacement O-rings can be found in the following kits:

- Replacement kit part number: 601-2514-011 (mouse Halcyon WBP maintenance kit)
- Replacement kit part number: 601-2514-013 (rat Halcyon WBP maintenance kit) – not pictured
- Replacement kit part number: 601-2514-015 (guinea pig Halcyon WBP maintenance kit) – not pictured

Note: Kits contain additional components that are not discussed in this section. Components may differ based on species and the type of chamber used



Silicone Lubricant (used where indicated below):

- Silicone Lubricant part number: 601-2524-052

22mm Port O-Ring

- This O-ring ensures a tight seal for either the Port Plug, Nebulizer, or Temperature/Humidity Probe

Transducer O-Rings

- These O-rings ensure a tight seal for the inflation/expiration port. Careful removal and insertion of the flow transducer will help maintain the integrity of these O-rings

H₂O Bottle O-Ring

- These O-rings ensures a tight seal for the water bottle port

Pneumotach O-Rings

- These O-ring ensure a tight seal around the pneumotach screens and is often replaced when changing pneumotach screens (see Screen section)

Chamber O-Ring

- This O-ring can be lubricated using silicone grease to make it easier to open the chamber. Place a small dab on your fingertip and run your finger around the entire O-ring. Do not leave a lot of greasy residue on the O-ring. A little grease goes a long way

Bias Flow Adaptor O-Ring

- This O-ring ensures a tight seal around the bias flow adaptor found in the bottom of the mouse Halcyon WBP

Miscellaneous

This section of the product maintenance guide depicts various components that may need to be replaced.

Nebulizer Heads

- Over time, nebulizer heads lose their efficiency and need to be replaced
 - **IMPORTANT!!** Once replaced, be certain to perform an efficiency test prior to starting your next experiment
- Proper cleaning, drying, and storage will help extend the life of a nebulizer head

- See FPWBP Application Manual for proper nebulizing equipment care and how to determine efficiency of the nebulizer head



- Replacement parts:
 - 601-2306-001 (2.5 - 4 μm particle size)
 - 601-2307-001 (4 - 6 μm particle size)

Calibration

It is good practice to frequently calibrate the apparatus. Calibration is one of the most important steps prior to an experiment and after replacing components. Without a system check and good calibration, your data is in danger of being slightly off or completely meaningless.

See the FPWBP Application Manual for proper calibration procedures.

Replacement Kit Summary

Tubing:

- Calibration Tubing:
 - Replacement part number: 601-2524-061
- Bias Flow Filter, Tubing, and Isolation Resistor
 - Replacement part number: 601-2522-007 (In-Line Coalescing Filter, Tubing, and Isolation Resistor)

- Replacement part number: 601-2522-004 (In-Line Coalescing Filter Only)
- Replacement part number: 601-2522-002 (Isolation Resistor Only)

Screens:

- Pneumotach Screens:
 - Replacement part number: 601-2524-060 (mouse – quantity 20)
 - Replacement part number: 601-2524-059 (rat/guinea pig - quantity 20)

O-Rings:

- Miscellaneous O-rings:
- Note: Kits contain additional components that are not discussed in this section. Components may differ based on species and the type of chamber used
 - Replacement kit part number: 601-2514-011 (mouse Halcyon WBP maintenance kit)
 - Replacement kit part number: 601-2514-013 (rat Halcyon WBP maintenance kit)
 - Replacement kit part number: 601-2514-015 (guinea pig Halcyon WBP maintenance kit)
- Silicone Lubricant part number: 601-2524-052

Miscellaneous:

- Nebulizer Heads:
 - 601-2306-001 (2.5 - 4 μm particle size)
 - 601-2307-001 (4 – 6 μm particle size)