

Aerosol Delivery System



This system is used for administering aerosol doses to one or several animal chambers at the same time. Using the Aerosol Distribution Chamber (f), equal doses of dehumidified aerosol are delivered to each chamber at once.

It is intended for use with the conscious animal plethysmographs described.

Using this system, the animal is aerosolized and measured in the same chamber, which is a convenience to the operator.

The entire configuration is intended not to interfere with the monitoring of respiratory parameters, even during the aerosolization period. Immediate responses can be observed, as well as the onset of longer responses which may take place before the aerosolization is complete. Up to 12 mouse plethysmographs may be aerosolized at once, or 4 rat or 4 guinea pig chambers.

The delivery system is always pushing air into the plethysmographs, and the bias flow system is always drawing an equal flow out of the plethysmographs. When the ultrasonic nebulizer is activated, aerosol is entered into the air stream, but the air flows are unchanged. Pulmonary measurements continue throughout the process, before challenge, during challenge, and after challenge.

Drying the nebulized mixture not only minimizes deposition of aerosolized material in the reservoir, in the animal chamber, and in the tubing leading to the animal chamber, but it also assures a smaller particle size arriving at the animal. Obligate nose breathers, such as rodents, require a small particle size to allow penetration of the aerosol beyond the head passageways.

- Allows monitoring and analysis of respiratory signals for conscious animals, even during aerosolization
- Aerosol doses are delivered by computer or manual controls
- Respiratory signals are monitored and analyzed using the BioSystem XA for Windows software

- a. Biosystem XA for Windows Software
- b. MAXII Pre-amplifier Unit
- c. Whole Body unrestrained Plethysmograph
- d. Bias Flow Regulator
- e. Aerosol Controller
- f. Aerosol Distribution Chamber
- g. Ultrasonic Nebulizer

The distribution chamber (f) is symmetrical. The flows into each plethysmograph are accurately matched. In this way, the aerosol concentration in each animal chamber is identical to the next. To achieve symmetry in the distribution system, the distribution reservoir has different port arrangements, and it is suggested that the customer specify how many animals he intends to aerosolize at once.

The Aerosol controller (e) maintains digital control over the time period of nebulization.

The front panel of the aerosol controller provides easy-to-use buttons and an LCD readout, for manual control. Or, if you choose to have the computer control your doses, there are specific protocol tasks in the software that facilitate automated control.

Catalog No.	Product
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CGS 8308.69

Aerosol Delivery System consists of BioSystem XA for Windows software - SFT3410 with Whole Body Flow Derived Parameters software analyzer - SFT3812; MAXII - MAX1320 plus applicable modules; Whole Body Unrestrained Plethysmograph (PLY3213 or similar), Bias Flow Regulator - PLY1020 or PLY1040; AUT5005 for up to 6 mice, 4 to 5 lpm; AUT5010 for 6 or more mice, or larger rodents, 8 to 10 lpm (either size) including Aerosol Controller, Aerosol Distribution Chamber, Ultrasonic Nebulizer