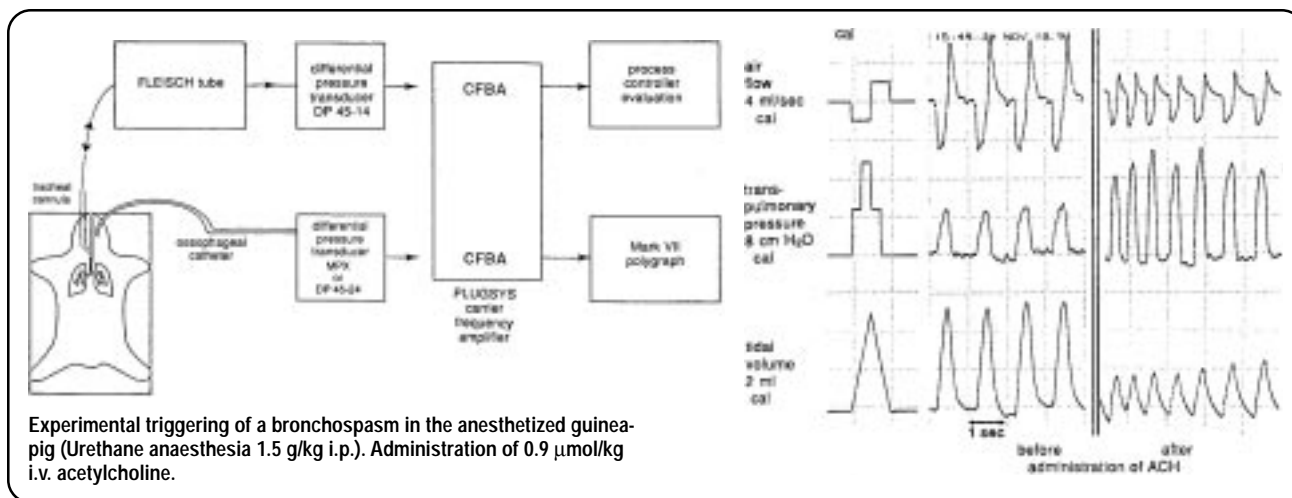


Respiratory Studies of Resistance and Compliance



In acute experiments, the anesthetized animal is placed on an operating table and tracheotomized. The respiratory flow is measured with a pneumotachometer Fleisch tube or PTM and a differential pressure transducer. In addition the oesophageal pressure is measured using an air or liquid filled tubing catheter and an adapted pressure transducer (MPX or P75). These two signals permit calculation of derived respiratory parameters such as:

- For measurement of bronchospasmolysis in anesthetized rodents
- Evaluation of typical parameters for respiratory studies (flow, tidal volume, minute volume, respiratory rate, dynamic resistance and compliance, inspiratory and respiratory duration)
- For acute experiments or intubated animals
- Long term studies using Plethysmograph box

- Maximal inspiratory and expiratory air flow
- Tidal volume and minute volume
- Respiration rate
- Lung resistance = pulmonary resistance = 75% airway resistance + 25% tissue resistance
- Dynamic compliance = elasticity of the respiratory system

For recording and evaluation the HSE PULMODYN software is used

The same measurement can also taken place with the intubated animal placed in a plethysmograph box, type 853. This reduces the dead space in the respiratory path. The pneumotachometer is not needed and is replaced by the screens in the plethysmograph box. The box can be equipped with an Anesthesia equipment to allow Halotane or Eflurane anesthesia during the measurement, the animal recovers after that. This permits long term studies with the same animals.

Haemodynamic signals such as blood pressure, ECG, blood flow can also be recorded and analyzed by the software. The adapted transducer, amplifiers and software module must be added to the system.

Catalog No.	Product
CGS 8277.69	Harvard Small Animal Operating Table
CGS 8278.69	HSE Pneumotachometer PTM Type 378/1.2
OR	
CGS 8279.69	Plethysmograph Box Type 853
CGS 8280.69	VALIDYNE Differential Pressure Transducer, Type DP 45-14 for respiratory flow signal from Fleisch tube
CGS 8281.69	Pressure Transducer, Type MPX, for Esophageal pressure
CGS 8282.69	PLUGSYS Basic System Case Type 603
CGS 8283.69	PLUGSYS CFBA Carrier Frequency Bridge Amplifier, Type 677 for DP 45-14
CGS 8284.69	PLUGSYS TAM-A Transducer Amplifier Module, Type 705/1 for MPX
CGS 8285.69	HSE Data Acquisition Hardware, PLUGSYS version
CGS 8286.69	HSE PULMODYN Software
CGS 8287.69	Algorithm advanced pulm. Flow IT, ET, AT, TT
CGS 8288.69	Connecting Block for Nebulizer and Anesthesia Attachment
CGS 8289.69	Aerosol Nebulizer
CGS 8290.69	Anesthesia Attachment with Halothane Vaporizer