Аппараты ИВЛ и аксессуары

Описание

По вопросам продаж и поддержки обращайтесь:

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Y-Luer Adapters

These Y-Luer Adapters are for use in general ventilation or respiratory mechanics studies. Five sizes available.

Item No.	Description
73-4118	Adapter for Luer cannulae with Miniature Y- adapter for tubing ID 1.5 to 2.2 mm
73-4121	Adapter for Luer cannulae with Y-adapter for tub- ing ID 2.5 to 3.4 mm
73-4122	Adapter for Luer cannulae with Y-adapter for tub- ing ID 3.3 to 4.6 mm
73-4123	Adapter for Luer cannulae with Y-adapter for tub- ing ID 4.1 to 4.9 mm
73-4065	Adapter for Luer cannulae with medium Y- adapter for tubing ID 6 to 7.4 mm



These Y-Luer Adapters are for use in general ventilation or respiratory mechanics studies. Five sizes available.

Ultrasonic Aerosol Nebulizer System

This nebulizer does not alter the formulation's molecular integrity. The system includes Nebulizer, filler cap, control and timing unit with power supply, and low dead volume adapter.

- High quality aerosol, precise particle size 2.5 to 4 μm
- Low flow rate approximately 0.1 ml/min
- Low residual volume < 0.2 ml
- Nebulized substance does not contaminate the inspiration path of the ventilator
- Suitable for rats, guinea pigs or rabbits
- Low dead volume adapter keeps system compliance to 1.5 ml
- System does not exceed 30ËšC after 15 min of use

Item No.	Description
73-3948	Ultrasonic Aeroxol Nebulizer System
73-3732	Ultrasonic Nebulizer with Filler Cap
73-3733	Ultrasonic Nebulizer Control Unit with Power Supply and Timer
73-3734	Low Dead Volume Adapter for Ultrasonic Aerosol Nebulizer



This nebulizer does not alter the formulation's molecular integrity. The system includes Nebulizer, filler cap, control and timing unit with power supply, and low dead volume adapter.

- High quality aerosol, precise particle size 2.5 to 4 μm
- Low flow rate approximately 0.1 ml/min
- Low residual volume <0.2 ml
- Nebulized substance does not contaminate the inspiration path of the ventilator
- Suitable for rats, guinea pigs or rabbits
- Low dead volume adapter keeps system compliance to 1.5 ml
- System does not exceed 30ËšC after 15 min of use

Included Items

Ultrasonic Aerosol Nebulizer System

Includes 73-3732 Ultrasonic Aerosol Nebulizer Unit, 73-3733 Ultrasonic Nebulizer Control Unit with Power Supply and Timing Unit, 73-3734 Low Dead Volume Adapter for Nebulizer

Ultrasonic Nebulizer with Filler Cap

High quality aerosol (precise particle size VMD between 2.5 and 4 µm, low-velocity aerosol, flow rate 0.1ml/min), low residual volume < 0.2ml, does not alter formulation's molecular integrity, aerosolizes a broad range of formulations in liquid without increasing concentration

Low Dead Volume Adapter

Effective dead volume 1.5ml, connection ports 6mm OD, 5mm ID

VentElite Small Animal Ventilator

The Harvard Apparatus VentElite allows for pressure or volume controlled ventilation in animals ranging in size from mouse to guinea pig. The large touch screen features a real-time graphical representation of the measured pressure as well as numeric displays of pressure, tidal volume, and respiration rate. Features of the VentElite include manual or programmable Sigh, Inspiratory or Expiratory Hold, adjustable I:E, and audible alarms.

- Ideal for mice to guinea pigs (10 g to 1 kg)
- Real time graphical display of tracheal pressure
- Easy to use color touchscreen
- Interchangable between volume and pressure modes
- Internal pressure monitoring for detection of over and under pressure conditions
- Manual or programmable Sigh
- Inspiratory or Expiratory Hold
- Adjustable I:E

Item No.	Description
55-7040	VentElite Ventilator for Small Rodents
73-4876	Respiratory Tube Kit for VentElite, Rat (For Tracheal or Intubation Cannula with Female Luer Adapter)
73-4899	Respiratory Tube Kit for VentElite, Mouse (For Tracheal or Intubation Cannula with Y-Adapter)
73-4872	Connection Kit for VentElite for Pressurized Gas



The VentElite Small Animal Ventilator was designed for animal research applications and is intended for use on subjects ranging in size from mice to guinea pigs. The goal in designing this ventilator was to maintain versatility and ease of use while fostering safe and physiologically accurate mechanical ventilation conditions.

Key Features

- Ideal for mice to guinea pigs (10 g to 1 kg)
- Real time graphical display of tracheal pressure
- Easy to use color touchscreen
- Interchangable between volume and pressure modes
- Internal pressure monitoring for detection of over and under pressure conditions
- Manual or programmable Sigh
- Inspiratory or Expiratory Hold

• Adjustable I:E

How It Works

The VentElite utilizes advanced technologies to precisely control respiration profiles. It has two operating modes, Volume Control and Pressure Control, and allows users to easily toggle between these two modes via the Settings button on the large touch screen.

Volume Control Mode

The Volume Control mode delivers the desired tidal volume to the subject by precisely controlling the stroke of the piston. Since the actual stroke length, and therefore tidal volume, may be modified for a given stroke, sigh breaths are supported. Similarly, since stroke speed is precisely controllable during inspiration and expiration, variable inspiration-to-expiration (I:E) ratios are also supported. A pressure sensor continuously monitors the airway pressure to alert the user of over- and under-pressure conditions.

Pressure Control Mode

The Pressure Control mode of the VentElite allows the user to set the peak inspiratory pressure (PIP) value. Flow rates are automatically adjusted by changing the tidal volume while keeping the respiration rate constant. The stroke is adjusted in a manner in which the PIP is reached near the end of the piston stroke. This ensures that the subject, which has a higher airway resistance than the airway path within the ventilator, receives the majority of the expected tidal volume and that the unit does not prematurely terminate the piston stroke. Manual adjustment of the inspiratory flow rate is not required. The VentElite offers built-in Positive End Expiratory Pressure (PEEP) capability, allowing a PEEP setting via the touch screen user interface of up to 10 cmH₂O. Another feature of the VentElite is the ability to perform Inspiratory or Expiratory Hold. The user can enter the desired hold time and initiate inspiratory or expiratory hold by simply pressing the Insp. Hold/Exp. Hold button on the user interface.

NOTE: The VentElite requires the use of the 73-4872 Connection Kit when used with a high pressure gas source.

Suggested Weight Range	10 g to 1 kg
Species	Mouse to Guinea Pig
Port Size: To Animal and Source	3.6 to 3.8 mm (0.14 to 0.15 in)
Port Sizes: From Animal and Exhaust	4.0 mm (0.16 in)
Control Modes	Volume or Pressure
Tidal Volume Range	50 µl to 5 ml
Tidal Volume Accuracy	0.1 µl
Tidal Volume Resolution	1μl

Peak Inspiratory Pressure (PIP)	0 to 50 cmH ₂ O
PIP Accuracy	±0.7 cmH ₂ O
PIP Resolution	1 cmH ₂ O
Breath Rate	10 to 300 bpm
I:E Ratio	20 to 80%
Gas Supply	Room air or nonflammable mixed gas
Sigh Frequency	Every 10 to 999 breaths, or manual
Sigh Breath	0 to 20% of Tidal Volume (in Volume Mode) or PIP (in Pressure Mode)
Safety Alarms	Over- and under-pressure
Signal Input	TTL, 0 to 5 VDC
Signal Output	TTL and analog out 0 to 10 VDC, 5 mA, 0.166 V per cmH_20 $$
Remote Communication	RS-485
Power Supply	100 to 240 VAC, 50/60 Hz
Input Power	15 V DC, 25 W
Input Power Connector	2.5 mm ID x 5.0 mm OD plug
Dimensions (W x D x H)	31.8 x 20.3 x 17.8 cm (12.5 x 8.0 x 7.0 in)
Weight	3.4 kg (7.6 lb)
Warranty	2 years

Small Animal Endotracheal Tubes

Flexible design minimizes trauma

- Urethane IV Catheter
- Available in two sizes

Item No.	Description
72-9079	Endotracheal Tube 20 ga x 1 in for Mice, pkg. of 5
72-9080	Endotracheal Tube 20 ga x 1 in for Mice, pkg. of 50
72-9081	Endotracheal Tube 16 ga x 1.25 in for Rats, pkg. of 5
72-9082	Endotracheal Tube 16 ga x 1.25 in for Rats, pkg. of 50

DETAILS

Flexible design minimizes trauma

- Urethane IV Catheter
- Available in two sizes

HSE-HA Pressure Monitor & Limiter for Small Animals

The HSE-HA Pressure Monitor and Limiter is placed between the ventilator and animal. Excessive pressures are released by an overpressure valve, protecting the ventilator and animal. It is an ideal control tool for controlling pressure on mechanical ventilators, such as MicoVent, MiniVent, MidiVent, Model 687 and Model 683.

- Set peak pressure range anywhere between 10 to 50 cmH₂O
- Reduces animal mortality and lung damage
- Continuous pressure measurement during ventilation
- Pressure is released by an overpressure valve
- Analog pressure signal output to record with DAQ software and TTL output of valve status
- Audible alarm

Item No.	Description
73-4330	Respiratory Pressure Monitor & Limiter for Rat
73-4337	Bar with Magnetic Ball - for Positioning and Mounting HSE-HA Pressure Monitor & Limiter Actuator Head
73-0566	Plexiglass Block Clamp for mounting 73-0562 Bar onto Lab Stand
73-0500	Lab Stand with Triangular Base Plate, 30 cm Rod Length (one block clamp included)



The HSE-HA Pressure Monitor and Limiter is placed between the ventilator and animal. Excessive pressures are released by an overpressure valve, protecting the ventilator and animal. It is an ideal control tool for controlling pressure on mechanical ventilators, such as MicoVent, MiniVent, MidiVent, Model 687 and Model 683.

Key Features

- Set peak pressure range anywhere between 10 to 50 cmH₂O
- Reduces animal mortality and lung damage
- Continuous pressure measurement during ventilation
- Pressure is released by an overpressure valve
- Analog pressure signal output to record with DAQ software and TTL output of valve status
- Audible alarm

Included Items

73-4329 includes: Actuator Head Mouse type 384/I and Respiratory Pressure Monitor & Limiter type 870/I and bar with magnet holder, 100-240 VAC, 50/60 Hz

73-4330 includes: Actuator Head Rat 384/2 and Respiratory Pressure Monitor & Limiter type 870/I and bar with magnetic holder, 100-240 VAC, 50/60 Hz.

Valve Opening Delay	10 msec max	
Pressure Range	1 to 50 cmH ₂ O	
Recording Output for Pressure	0 to 4 V (50 mV/cmH ₂ O)	
Adjustable Valve Open Time	50 to 500 msec	
Trigger Output	TTL (Low for valve open)	
Connectors	Pressure Recording: BNC TTL Output: BNC	
Port Sizes	Mouse Actuator ID=1.5 mm, OD=2.0 mm Rat Actuator; ID=3.5 mm, OD=4.0 mm	
Power Supply	12 VDC through external adapter 100-240 VAC	
Dimensions (W x D x H)	Pressure Monitor & Limiter: 150 x 100 x 55 mm (5.9 x 3.9 x 2.2 in) Actuator Head, Mouse: 65 x 42 x 25 mm (2.6 x 1.7 x 1 in) Actuator Head, Rat: 80 x 48 x 28 mm (3.1 x 1.9 x 1.1 in)	
Certifications	CE	

Battery Pack for MicroVent, MiniVent and MidiVent

Provides transportability while under ventilation, providing up to 100 hours of use from a single charge.

• Lithium Polymer Battery 6,600 mAh capacity

Item No.

Description

73-4127

Battery Pack for MicroVent, MiniVent and MidiVent



DETAILS

Provides transportability while under ventilation, providing up to 100 hours of use from a single charge.

• Lithium Polymer Battery 6,600 mAh capacity

Small Animal Intubation Kits

Three intubation kits are available depending on your animal size.

Intubation kits supplied with: Fiber optic stylet size dependent on kit ordered, endotracheal tubes (pkg. of 5) size dependent on kit ordered, illuminator and carrying case.

Item No.	Description
72-9085	Mouse Intubation Kit
72-9086	Small Rat Intubation Kit
72-9087	Large Rat Intubation Kit
72-9088	Stylet Kit - includes one of each stylet, illuminator and carrying case
72-9089	Complete Kit - includes one of each stylet, each size of endotracheal tube (pkg. of 5 for each size), illuminator



Three intubation kits are available depending on your animal size.

Intubation kits supplied with: Fiber optic stylet size dependent on kit ordered, endotracheal tubes (pkg. of 5) size dependent on kit ordered, illuminator and carrying case.

Lung Inflation Bulb

Safe and reliable method for verification of endotracheal tube placement

- Squeezing bulb creates obvious distension of chest when endotracheal tube is placed properly
- Reduces time off ventilator
- Reduces animal distress
- Distal end is a male Luer that mates with female Luer connector on endotracheal tube
- Semi-disposable as needed

Item No.	Description
72-9083	Lung Inflation Bulb, pkg. of 3
72-9084	Lung Inflation Bulb, box of 50



Safe and reliable method for verification of endotracheal tube placement

- Squeezing bulb creates obvious distension of chest when endotracheal tube is placed properly
- Reduces time off ventilator
- Reduces animal distress
- Distal end is a male Luer that mates with female Luer connector on endotracheal tube
- Semi-disposable as needed

Fiber Optic Stylet (FOS)

Fiber optic light allows greater visibility during intubation procedure.

- Semi-rigid guidance for intubation of small animals
- Illumination end is stripped and reinforced fiber optic wire and inserted into trachea through IV catheters
- Coupling adapter is included to couple the IV catheters to the FOS

Item No.	Description
72-9075	Fiber Optic Stylet for Mice
72-9077	Fiber Optic Stylet for Rats, Large
72-9078	Illuminator for Fiber Optic Stylets



Fiber optic light allows greater visibility during intubation procedure.

- Semi-rigid guidance for intubation of small animals
- Illumination end is stripped and reinforced fiber optic wire and inserted into trachea through IV catheters
- Coupling adapter is included to couple the IV catheters to the FOS

Specifications	72-9075	72-9076	72-9077
Weight Range	10+ g	100 to 200 g	200 to 300 g
Catheter Sizes	10 to 20 g: 22 ga (1.0 in) 20+ g: 22 ga (1.0 in)	18 ga (1.25 in)	200 to 300 g:16 ga (1.25 in) 300+ g:14 ga (1.5 in)

Intubation Cannulae with Y-Adapter

The intubation cannula is used in chronic studies where the animal will be intubated. The outside diameter of the cannula must ensure a tight fit to the animal's trachea.

- Includes Y-adapter for connecting to a ventilator; the outside diameter of the Y-adapter matches to most of the ports diameters of the ventilators
- Available in several sizes for various species

Related Items

Item No.	Description
73-2737	Intubation Cannula with Y-adapter for Mouse, OD 1.0 mm, L 24 mm
73-2843	Intubation Cannula with Y-adapter for Mouse, OD 1.1 mm, L 24 mm
73-2844	Intubation Cannula with Y-adapter for Mouse, OD 1.2 mm, L 27 mm
73-4115	Intubation Cannula with Y-adapter for Small Rat, OD 1.5 mm, L 32 mm
73-4116	Intubation Cannula with Y-adapter for Small Rat, OD 1.8 mm, L 35 mm
73-4117	Intubation Cannula for with Y-adapter for Rat, OD 2.0 mm, L 45 mm
73-2847	Intubation Cannula with Y-adapter for Rat/Guinea Pig, OD 2.3 mm, L 45 mm
73-2739	Intubation Cannula with Y-adapter for Rat/Guinea Pig, OD 2.5 mm, L 45 mm

Item No.	Description
73-2740	Intubation Cannula with Y-adapter for Rat/Guinea Pig, OD 3.0 mm, L 53 mm
73-2741	Intubation Cannula with Y-adapter for Rat/Guinea Pig, OD 3.5 mm, L 56 mm
73-2742	Intubation Cannula with Y-adapter for



The intubation cannula is used in chronic studies where the animal will be intubated. The outside diameter of the cannula must ensure a tight fit to the animal's trachea.

• Includes Y-adapter for connecting to a ventilator; the outside diameter of the Y-adapter matches to most of the ports diameters of the ventilators

• Available in several sizes for various species Note: The Y-adapter reduces the length of the cannula by approximately 4 to 6 mm.

Item #	Species	Length with Y-Adapter (mm)	OD (mm)) (mm) Y-Adapter Size for Connection to Ventilator (mm)	
73-2737	Mouse	24	1.0	1.6	
73-2843	Mouse	24	1.1	1.6	
73-2844	Mouse	27	1.2	1.6	
73-4115	Small Rat	35	1.5	3.0	
73-4116	Small Rat	35	1.8	3.0	
73-4117	Rat	45	2.0	3.0	
73-2847	Rat	45	2.3	7.5	
73-2739	Rat/Guinea Pig	45	2.5	7.5	
73-2740	Rat/Guinea Pig	53	3.0	7.5	
73-2741	Rat/Guinea Pig	56	3.5	7.5	
73-2742	Rabbit/Small Cat	62	4.5	10	

Miller Fiber Optic Laryngoscope Set

This laryngoscope has a removable fiber optic light pipe for easy cleaning and quick replacement. Complete set includes the five Miller laryngoscope blades with a small and medium handle in a compact zipper case.

- Durable one-piece stainless steel construction; knurled finish for positive grip
- Brilliant Halogen illumination provides twice the light intensity of ordinary laryngoscope lamps
- Wireless blades eliminate electrical contact

Item No.

Description

59-6569

Miller Fiber Optic Laryngoscope Set - includes five Miller blades, small and medium handle in zipper case.



This laryngoscope has a removable fiber optic light pipe for easy cleaning and quick replacement. Complete set includes the five Miller laryngoscope blades with a small and medium handle in a compact zipper case.

- Durable one-piece stainless steel construction; knurled finish for positive grip
- Brilliant Halogen illumination provides twice the light intensity of ordinary laryngoscope lamps
- Wireless blades eliminate electrical contact

Includes blades: 59-6564, 59-6565, 59-6566, 59-6567, and 59-6568

Large Animal Ventilator (Model 613), Single Animal, Volume Controlled

This is the workhorse of the Harvard Apparatus Volume Controlled Ventilators. There are literally thousands of these Ventilators in use in leading research laboratories throughout the world. Their design has been essentially unchanged over the years. There are dozens of examples of these Ventilators giving continuous service for more than thirty years with proper care and maintenance.

- For animals from 1.5 to 50 kg (3.3 to 110 lb) in weight
- Volume adjustable from 30 to 750 cc/stroke
- Variable Inspiratory: Expiratory Ratio

Item No.	Description
55-0715	Harvard Large Animal Ventilator, Model 613, 115 VAC
55-0723	Harvard Large Animal Ventilator, Model 613, 230 VAC
55-0731	Overhaul Kit for Harvard Apparatus Large Animal Ventilator; Contains O-rings, Valve Springs, Lubricants, etc. to Overhaul Ventilator. NOTE: Overhaul Kit does not include replacement cylinder.



The Harvard Apparatus Large Animal Volume Controlled Ventilator is suitable for ventilating a single animal from 1.5 to 50 kg. It has adjustable tidal volume from 30 to 700 ml/stroke and an adjustable respiratory rate from 7 to 50 breaths/minute.

This is the workhorse of the Harvard Apparatus Volume Controlled Ventilators. There are literally thousands of these Ventilators in use in leading research laboratories throughout the world. Their design has been essentially unchanged over the years. There are dozens of examples of these Ventilators giving continuous service for more than thirty years with proper care and maintenance.

- For animals from 1.5 to 50 kg (3.3 to 110 lb) in weight
- Volume adjustable from 30 to 750 cc/stroke
- Variable Inspiratory: Expiratory Ratio

Note that the volume adjustment is made on the piston shaft, and that therefore accurate volume adjustment cannot be made while the ventilator is running. However, the rate and the I:E % can be varied while the ventilator is running. Air/gas valving is by the four port system with separate ports for gas inlet, gas outlet (to animal), gas return (from animal), and ventilator exhaust.

The gas inlet can be used to supply air or any non-flammable gas supply. Like the other Harvard mechanical ventilators, attachment of the ventilator exhaust to a column of water can be used to produce a positive and expiratory pressure (PEEP).

Voltage Range	
55-0715	115 VAC, 60 Hz
55-0/34	230 VAC, 50 Hz
Number of Animals	1
Species	Rabbit, cat, dog
Control Modes	Volume
Gas Supply	Room air or non-flammable mixed gas
Display	None
IE Ratio	25:50 of single stroke
PEEP	Provided via attachment of water column
Respiration Rate	7 (min) to 50 (max) breaths/min
Respiration Rate Note	Adjustable from 7 to 50 strokes/min while the ventilator is running
Stroke Volume	Continuously adjustable from 30 to 750 cc/stroke
Stroke Volume Note	Adjustable from 30 to 750 cc/stroke (adjustment must be made while ventilator off
Port Size OD	0.625 in (15.9 mm)
Port Size ID	0.5 in (12.7 mm)
Weight Range	1.5 (min) to 50 (max) g
Dimensions, H x L x W	12 x 20 x 9 in (30 x 50 x 22.5 cm)
Net Weight	45 lb (21 kg)
Certifications	CE

MidiVent Ventilator for Large Mice and Small Rats (Model 849), Single Animal, Volume Controlled

The MidiVent Model 849 Ventilator is a quiet, compact and light weight ultra low volume ventilator. While it was designed specifically for large mice, the MidiVent can be used for any animal (e.g. small rats, shrew, hamster) which requires tidal volumes in the range of 60 to 700 µl and respiratory rates of 60 to 400 breaths per minute.

The extremely light weight and compact construction, in addition to the convenient rod clamp, allow the MidiVent ventilator to be positioned directly next to the animal.

- Ideal for large mice and small rats up to 100 grams
- Stroke volume range from 60 to 700 µl
- Ventilation rate from 60 to 400 breaths/minute
- Simple adjustment of stroke volume while running
- Valveless piston pump, no valves to clog
- Very small instrument/circuit dead space volume
- Compact construction, easy to install close to animal
- No vibrations, very low noise

See our support center page here for information regarding replacement power supplies.

Item No.	Description
73-4119	MidiVent Ventilator, Type 849, 110/220V; Tidal Volume 60-700 µl
73-3077	ANESTHESIA MACHINE CONNECTION KIT FOR MICROVENT, MINIVENT AND MIDIVENT VENTILATOR.
73-4472	PEEP System with Tube Set to provide positive ex- piratory pressure on a MiniVent, MicroVent or MidiVent

Item No.	Description		
73-2919	Multi-Gas Inlet Adapter and stand to connect Aerosol Nebulizer and MicroVent, MiniVent or MidiVent		
73-4008	Trigger Output Option for MiniVent, End of Inspiration		
73-4013	Tirgger Output Option for Minivent, End of		

Expiration



DETAILS

The MidiVent Model 849 Ventilator is a quiet, compact and light weight ultra low volume ventilator designed specifically for large mice. It can be used for any animal (e.g. small rats, shrew, hamster) which requires tidal volumes in the range of 60 to 700 µl and respiratory rates of 60 to 400 breaths per minute.

Key Features

- Ideal for large mice and small rats up to 100 grams
- Stroke volume range from 60 to 700 µl
- Ventilation rate from 60 to 400 breaths/minute
- Simple adjustment of stroke volume while running
- Valveless piston pump, no valves to clog
- Very small instrument/circuit dead space volume
- Compact construction, easy to install close to animal
- No vibrations, very low noise

How it Works

The MidiVent Ventilator is a constant-volume respiration pump operating on the Starling principle. Unlike conventional units for larger animals, this ventilator employs a rotary plunger and has no valves. During each ventilation cycle, the plunger performs a synchronized forward and rotating movement. Cleverly arranged bores and channels in the cylinder and plunger control inspiration and expiration during each stroke of the plunger.

The extremely light weight and compact construction, in addition to the convenient rod clamp, allow the MidiVent ventilator to be positioned directly next to the animal. Typical setups with larger ventilators produce large tubing and instrument dead space volumes. These larger volumes introduce greater system compliance which can affect the accuracy with which the full tidal volume is introduced into the animal's lungs. With the MidiVent, the tidal volume error due to system compliance is reduced to 5 µl.

Tidal volume and respiration rate can be set exactly to the values required for mouse ventilation. The level of precision and control available to the investigator minimizes the danger of hyperventilation or hypoventilation.

The tidal volume can be varied continuously from 60 to 700 ul during operation without having to interrupt ventilation. The respiration rate is also continuously adjustable from 60 to 400 strokes/min. The expired air can be recovered at the collection port for sampling, recycling or for the generation of a positive end-expiratory pressure (PEEP). Room air or any non-explosive gas mixture can be used to feed the pump intake using the special connection tubing PY2 73-3077.

Components

The system is supplied with Silicone Tubing (1.5mm ID, 3.0mm OD, 14cm long), a 1.5 mm OD tracheal cannula and a 1.5 mm OD intubation cannula for the mice. For other size animals, additional intuubation or tracheal cannula sizes may be needed.

A multi-gas inlet adapter is available for the MidiVent so that alternate gas mixtures and nebulized substances are delivered to thr MidiVent inlet port at atmospheric pressure. The adapter provides ports

for multiple selectable gas mixture (hypoxic, anesthetic...) and a port for the Aerosol Nebulizer.

Voltage Range 73-4020	115 VAC
75-4119	250 VAC
Number of Animals	1
Species	Large mouse, small rat
Control Modes	Volume
Gas Supply	Room air or non-flammable mixed gas
Display	None
IE Ratio,%	1:1
PEEP	Provided via attachment of water column
Respiration Rate	60 (min) to 400 (max) breaths/min
Repiration Rate Note	Continuously adjustable from 60 to 400 breaths/min
Sigh Frequency	None
Sigh Pressure	Not available
Tidal Volume	60 (min) to 700 (max) ml/stroke
Stroke Volume	Continuously adjustable from 60 to 700 µl
Weight Range	5 (min) to 100 (max) g
Dimensions, W x H x D	3.9 x 3.1 x 7.9 in (10 x 8 x 20 cm)
Net Weight	2.2 lb (1 kg)
AC Adapter Weight	0.7 lb (0.3 kg)
Certifications	CE

Small Animal Ventilator (Model 683), Single Animal, Volume Controlled

The Model 683 Small Animal Ventilator comes standard with two piston and cylinder assemblies. The smaller piston (which comes installed) allows tidal volumes to be set from 0.5 to 5.0 cc in 0.5 cc increments and the larger cylinder allows tidal volumes of 3.0 to 30 cc in 0.3 cc increments. Setting the cylinder stroke between gradations it is possible to achieve finer resolution in tidal volume settings.

- For small animals from 250 g to 10 kg (22 lb) e.g. rats, hamsters, rabbits, cats, monkeys, small dogs
- CE approved

Item No.	Description
55-0006	Retrofit Model 683, for Models pre-2008
73-3076	Ventilation Connection Kit for 683 Small Animal Ventilator
55-5282	Overhaul Kit for 683 Ventilator with 5 cc Cylinder
55-5283	Overhaul Kit for 683 Ventilator with 30 cc Cylinder



The Model 683 Small Animal Ventilator comes standard with two piston and cylinder assemblies. The smaller piston (which comes installed) allows tidal volumes to be set from 0.5 to 5.0 cc in 0.5 cc increments and the larger cylinder allows tidal volumes of 3.0 to 30 cc in 0.3 cc increments. Setting the cylinder stroke between gradations it is possible to achieve finer resolution in tidal volume settings.

- For small animals from 250 g to 10 kg (22 lb) e.g. rats, hamsters, rabbits, cats, monkeys, small dogs
- CE approved

The 683 Ventilator features a numerical LED to display the respiratory rate which can be set from 18 to 150 strokes/minute. Volume and rate settings can be adjusted while the ventilator is running.

The 683 Ventilator has four gas inlet and outlet ports: supply gas in, gas out (to animal), gas return (from animal) and ventilator exhaust. The ventilator exhaust can be attached to a column of water to achieve PEEP (positive end expiratory pressure) when long term animal ventilation is necessary.

Overhaul kits are available for the 683 ventilator are are specific for the type of cylinder used. Overhaul kits include complete instructions and replacement parts.

Voltage Range			
	115/230 VAC, 50/60 Hz		
Number of Animals	1		
Species	Rat, guinea pig, hamster, rabbit, cat, monkey, small dog		
Control Modes	Volume		
Gas Supply	Room air or non-flammable mixed gas		
Display	Numeric LED displays rate		
IE Ratio,%	1:1		
PEEP	Provided via attachment of water column		
Respiration Rate	30 (min) to 150 (max) breaths/min		
Respiration Rate Note	Adjustable from 30 to 1500 strokes/min which the ventilator is running		
Sigh Frequency	None		
Sigh Pressure	Not available		
Tidal Volume, Maximum, ml/stroke	5 and 30		
Tidal Volume, Minimum, ml/stroke	0.5 and 3		
Stroke Volume	Continuously adjustable from 30 to 350 µl		
Stroke Volume Note	Adjustable from 0.2 to 30 ml/stroke while the ventilator is running		
Weight Range	1 (min) to 50 (max) g		
Dimensions, H x L x W	10 x 13 x 7.9 in (25 x 32.5 x 20 cm)		
Net Weight	21 lb (9.5 kg)		
Certifications	CE		

Miller Fiber Optic Blades

The Miller Fiber Optic Laryngoscope Blades are straight for easy insertion and are for use with the Fiber Optic Blade Handles.

- Removable fiber optic light pipe for easy cleaning and quick replacement
- Durable one-piece stainless steel construction; knurled finish for positive grip
- Brilliant Halogen illumination provides twice the light intensity of ordinary laryngoscope lamps
- Wireless blades eliminate electrical contact

Item No.	Description
72-6390	Miller Fiber Optic Laryngoscope Blade, size 00
59-6564	Miller Fiber Optic Laryngoscope Blade, size 0



The Miller Fiber Optic Laryngoscope Blades are straight for easy insertion and are for use with the Fiber Optic Blade Handles.

- Removable fiber optic light pipe for easy cleaning and quick replacement
- Durable one-piece stainless steel construction; knurled finish for positive grip
- Brilliant Halogen illumination provides twice the light intensity of ordinary laryngoscope lamps
- Wireless blades eliminate electrical contact

Specifications	72-6390	59-6564	59-6565	59-6566	59-6567	59-6568
Inside Base to Tip	1.42 in	2.0 in	3.1 in	5.2 in	6.8 in	7.2 in
	(36 mm)	(53 mm)	(79 mm)	(132 mm)	(172 mm)	(182 mm)
Inside Vertical Length	0.32 in	0.32 in	0.32 in	3.1 in	0.40 in	0.50 in
	(8 mm)	(8 mm)	(8 mm)	(10 mm)	(11 mm)	(13 mm)
Size	00	0	1	2	3	4

Intubation Cannulae with Luer Adapter

The intubation cannula is used in chronic studies where the animal will be intubated. The outside diameter of the cannula must ensure a tight fit to the animal's trachea.

- Luer-adapter for use with any Luer style connections
- Available in several sizes for various species

Related Items

Item No.	Description
73-3112	Intubation Cannula with Luer Adapter for Rat/Guinea Pig, OD 3.5 mm, L 56 mm
73-2856	Intubation Cannula with Luer Adapter for Rat/Guinea Pig, OD 3.0 mm, L 53 mm
73-2855	Intubation Cannula with Luer Adapter for Rat/Guinea Pig, OD 2.5 mm, L 45 mm
73-2854	Intubation Cannula with Luer Adapter for Rat/Guinea Pig, OD 2.3 mm, L 45 mm
73-2853	Intubation Cannula with Luer Adapter for Small Rat, OD 2.0 mm, L 45 mm
73-2852	Intubation Cannula with Luer Adapter for Small Rat, OD 1.8 mm, L 35 mm
73-2851	Intubation Cannula with Luer Adapter for Small Rat, OD 1.5 mm, L 32 mm
73-2850	Intubation Cannula with Luer Adapter for Mouse, OD 1.2 mm, L 27 mm

Item No.	Description
73-2849	Intubation Cannula with Luer Adapter for Mouse, OD 1.1 mm, L 26 mm
73-2848	Intubation Canpula with Lucr Adaptor for Mouso

Intubation Cannula with Luer Adapter for Mouse, OD 1.0 mm, L 26 mm



DETAILS

The intubation cannula is used in chronic studies where the animal will be intubated. The outside diameter of the cannula must ensure a tight fit to the animal's trachea.

- Luer adapter for use with any Luer style connections
- Available in several sizes for various species

Note: The Luer adapter reduces the length of the cannula by approximately 4 mm.

Item #	Species	Length with Luer Adapter (mm)	OD (mm)
73-3112	Rat/Guinea Pig	56	3.5
73-2856	Rat/Guinea Pig	53	3.0
73-2855	Rat/Guinea Pig	45	2.5
73-2854	Rat/Guinea Pig	45	2.3
73-2753	Small Rat	45	2.0
73-2852	Small Rat	35	1.8
73-2851	Small Rat	32	1.5
73-2850	Mouse	27	1.2
73-2849	Mouse	26	1.1
73-2848	Mouse	26	1.0

MiniVent Ventilator for Mice (Model 845), Single Animal, Volume Controlled

The MiniVent Model 845 Ventilator is a quiet, compact and light weight ventilator. While it was designed specifically for mice, the MiniVent can be used for any animal (e.g. birds and perinatal rats) which requires tidal volumes in the range of 30 to 350 µl and respiratory rates of 60 to 400 breaths per minute.

- Ideal ventilator for mice
- Stroke volume range from 30 to 350 µl
- Ventilation rate from 60 to 400 breaths/minute
- Simple adjustment of stroke volume while running
- Valveless piston pump, no valves to clog
- Very small instrument/circuit dead space volumne
- Compact construction, easy to install close to animal
- No vibrations, very low noise

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ltem No.	Description
73-0044	MINIVENT TYPE 845, 110v/220V; Tidal Volume 30- 350 µl
73-3077	ANESTHESIA MACHINE CONNECTION KIT FOR MICROVENT, MINIVENT AND MIDIVENT VENTILATOR.
73-2919	Multi-Gas Inlet Adapter and stand to connect Aerosol Nebulizer and MicroVent, MiniVent or MidiVent
73-4013	Tirgger Output Option for Minivent, End of Expiration
73-4008	Trigger Output Option for MiniVent, End of Inspiration



The MiniVent Model 845 Ventilator is a quiet, compact and light weight ventilator designed specifically for mice. It can be used for any animal (e.g. birds and perinatal rats) which requires tidal volumes in the range of 30 to 350 µl and respiratory rates of 60 to 400 breaths per minute.

Key Features

- Ideal ventilator for mice
- Stroke volume range from 30 to 350 µl
- Ventilation rate from 60 to 400 breaths/minute
- Simple adjustment of stroke volume while running
- Valveless piston pump, no valves to clog
- Very small instrument/circuit dead space volumne
- Compact construction, easy to install close to animal
- No vibrations, very low noise

How it Works

The MiniVent Ventilator is a constant-volume respiration pump operating on the Starling principle. Unlike conventional units for larger animals, this ventilator employs a rotary plunger and has no valves. During each ventilation cycle, the plunger performs a synchronized forward and rotating movement. Cleverly arranged bores and channels in the cylinder and plunger control inspiration and expiration during each stroke of the plunger.

The extremely light weight and compact construction, in addition to the convenient rod clamp, allow the MiniVent ventilator to be positioned directly next to the animal. Typical setups with larger ventilators produce large tubing and instrument dead space volumes. These larger volumes introduce greater system compliance which can affect the accuracy with which the full tidal volume is introduced into the animal's lungs. With the MiniVent, the tidal volume error due to system compliance is reduced to ± 3 µl.

Tidal volume and respiration rate can be set exactly to the values required for mouse ventilation. The level of precision and control available to the investigator minimizes the danger of hyperventilation or hypoventilation.

The tidal volume can be varied continuously from 30 to 350 µl during operation without having to interrupt ventilation. The respiration rate is also continuously adjustable from 60 to 400 strokes/min. The expired air can be recovered at the collection port for sampling, recycling or for the generation of a positive end-expiratory pressure (PEEP). Room air or any non-explosive gas mixture can be used to feed the pump intake.

Components

The MiniVent is supplied with 1 x AC Wall Mounted Power Supply (115 V or 220 V); 2 x Silicone Tubing (1.5mm ID, 3.0mm OD, 14cm long); 1 x 1.3mm OD Tracheotomy Cannula (73-2730); 1 x 1.2mm OD Intubation Cannula (73-2844).

A multi-gas inlet adapter is available for the MiniVent so that alternate gas mixtures and nebulized substances are delivered to the MiniVent inlet port at atmospheric pressure. The adapter provides ports for multiple selectable gas mixtures (hypoxic, anesthetic...) and a port for the Aerosol Nebulizer.

Voltage Range 73-0043 73-0044	115 VAC 230 VAC	
Number of Animals	1	
Species	Mouse, prenatal rat, small bird	
Control Modes	Volume	
Gas Supply	Room air or non-flammable mixed gas	
Display	None	

IE Ratio,%	1:1
PEEP	Provided via attachment of water column
Respiration Rate	60 (min) to 400 (max) breaths/min
Respiration Rate Note	Continuously adjustable from 60 to 400 breaths/min
Sigh Frequency	None
Sigh Pressure	Not available
Tidal Volume	0.03 (min) to 0.13 (max) ml/stroke
Stroke Volume	Continuously adjustable from 30 to 350 µl
Weight Range	1 (min) to 50 (max) g
Dimensions, W x H x D)	3.9 x 3.1 x 7.9 in (10 x 8 x 20 cm)
Net Weight	2.2 lb (1 kg)
AC Adapter Weight	0.7 lb (0.3 kg)
Certifications	CE

Cannulae

	73-2731	73-2730	73-2844	73-4112
Animal Species	Mouse	Mouse	Mouse	Small Rat
Length, mm	13	13	30	15
Note	Length listed is total cannula length	Length listed is total cannula length	Length listed is total cannula length	With the medium Y-adapter (7.5 mm OD), this cannula length is 3 mm less than listed
OD, mm	1.0	1.3	1.2	1.5
Y- Adapter, mm	3.0	3.0	3.0	7.5

MicroVent Ventilator for Prenatal Mice (Model 848), Single Animal Volume Controlled

The MicroVent Ventilator is a constant-volume respiration pump operating on the Starling principle. Unlike conventional units for larger animals, this ventilator employs a rotary plunger and has no valves. During each ventilation cycle, the plunger performs a synchronized forward and rotating movement. Cleverly arranged bores and channels in the cylinder and plunger control inspiration and expiration during each stroke of the plunger.

The extremely light weight and compact construction, in addition to the convenient rod clamp, allow the MicroVent Ventilator to be positioned directly next to the animal.

- Ideal for very small animals, perinatal mice, birds
- Stroke volume range from 0 to 130 µl
- Ventilation rate from 60 to 400 breaths/minute
- Simple adjustment of stroke volume while running
- Valveless piston pump, no valves to clog
- Very small instrument/circuit dead space volume
- · Compact construction, place close to animal
- No vibrations, very low noise .

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Item No.	Description
73-3590	MicroVent Ultra-Low Volume Ventilator, Type 848, 230 VAC
73-3591	MicroVent Ultra-Low Volume Ventilator, Type 848, 115 VAC
73-3077	ANESTHESIA MACHINE CONNECTION KIT FOR MICROVENT, MINIVENT AND MIDIVENT VENTILATOR.

Item No.	Description
73-4008	Trigger Output Option for MiniVent, End of Inspiration
73-4013	Tirgger Output Option for Minivent, End of Expiration
73-2731	Tracheal Cannula for Mouse, OD 1.0 mm, L 13 mm, with Y-adapter for Minivent
73-2737	Intubation Cannula with Y-adapter for Mouse, OD 1.0 mm, L 24 mm
73-0027	Silicone Tubing with Mouse Y-Adapter to MiniVent, Pack of 10



The MicroVent Ventilator is a constant-volume respiration pump operating on the Starling principle. Unlike conventional units for larger animals, this ventilator employs a rotary plunger and has no valves. During each ventilation cycle, the plunger performs a synchronized forward and rotating movement. Cleverly arranged bores and channels in the cylinder and plunger control inspiration and expiration during each stroke of the plunger.

Key Features

- Ideal for very small animals, perinatal mice, birds
- Stroke volume range from 0 to 130 µl
- Ventilation rate from 60 to 400 breaths/minute
- Simple adjustment of stroke volume while running
- Valveless piston pump, no valves to clog
- Very small instrument/circuit dead space volume
- · Compact construction, place close to animal
- No vibrations, very low noise

How It Works

The extremely light weight and compact construction, in addition to the convenient rod clamp, allow the MicroVent Ventilator to be positioned directly next to the animal. Typical setups with larger ventilators produce large tubing and instrument dead space volumes. These larger volumes introduce greater system compliance which can affect the accuracy with which the full tidal volume is introduced into the animal's lungs. With the MicroVent, the tidal volume error due to system compliance is reduced to less than 3 µl. Tidal volume and respiration rate can be set exactly to the values required for animal ventilation. The level of precision and control available to the investigator minimizes the danger of hyperventilation or hypoventilation. The tidal volume can be varied continuously from 0 to 130 µl during operation without having to interrupt ventilation. The respiration rate is also continuously adjustable from 60 to 400 strokes/min. The expired air can be recovered at the collection port for sampling, recycling or for the generation of a positive end-expiratory pressure (PEEP). Room air or any non-explosive gas mixture can be used to feed the pump intake.

Components

A multi-gas inlet adapter is available for the MicroVent so that alternate gas mixtures and nebulized substances are delivered to the MicroVent inlet port at atmospheric pressure. The adapter provides ports for multiple selectable gas mixtures (hypoxic, anesthetic...) and a port for the Aerosol Nebulizer.

SPECIFICATIONS

Voltage Range 73-3591	115 VAC
73-3590	230 VAC
Number of Animals	1
Species	Perinatal mouse, small bird
Control Modes	Volume
Gas Supply	Room air or non-flammable mixed gas
Display	None
IE Ratio,%	1:1
PEEP	Provided via attachment of water column
Respiration Rate	60 (min) to 400 (max) breaths/min
Repiration Rate Note	Continuously adjustable from 60 to 400 breaths/min
Sigh Frequency	None
Sigh Pressure	Not available
Tidal Volume	0,03 (min) to 0.13 (max) ml/stroke
Stroke Volume	Continuously adjustable from 0 to 130 µl
Weight Range	1 (min) to 50 (max) g
Dimensions, W x H x D	3.9 x 3.1 x 7.9 in (10 x 8 x 20 cm)
Net Weight	2.2 lb (1 kg)
AC Adapter Weight	0.7 lb (0.3 kg)
Certifications	CE

Cannula

	73-2737	
Animal Species	Mouse	
Length, mm	28	
Note	Length listed is total cannula length	
OD, mm	1.0	
Y-Adapter, mm	3.0	

Ventilator-Anesthesia Connection Kits

Necessary for connection of your small animal ventilator to anesthesia system

- Directly connect anesthesia to ventilator for appropriate delivery to intubated or tracheotomized animal
- Removes pressurized gas to waste port preventing lung and ventilator damage
- Can also be used to safely connect any pressurized gas source to the inlet of a ventilator
- Several sizes available to work with all Harvard Apparatus Ventilators

Item No.	Description
73-3076	Ventilation Connection Kit for 683 Small Animal Ventilator
73-4872	Connection Kit for VentElite for Pressurized Gas
73-3077	ANESTHESIA MACHINE CONNECTION KIT FOR MICROVENT, MINIVENT AND MIDIVENT VENTILATOR.



Necessary for connection of your small animal ventilator to anesthesia system

- Directly connect anesthesia to ventilator for appropriate delivery to intubated or tracheotomized
 animal
- · Removes pressurized gas to waste port preventing lung and ventilator damage
- Can also be used to safely connect any pressurized gas source to the inlet of a ventilator
- Sizes available to work with all Harvard Apparatus Ventilators
- Three sizes available to work with:
 - VentElite Ventilator for Small Rodents
 - Model 683 Small Animal Ventilator
 - Model 687 Mouse Ventilator
 - MicroVent Prenatal Mouse Ventilator
 - MiniVent Mouse Ventilator
 - MidiVent Mouse Ventilator

Intubation Cannulae (Cannula Only)

The intubation cannula is used in chronic studies where the animal will be intubated. The outside diameter of the cannula must ensure a tight fit to the animal's trachea.

- Cannula only, for your own assembly
- Available in several sizes for various species

Related Items

Item No.	Description
73-2840	Intubation Cannula for Small Rat, OD 1.5 mm, L 37 mm
73-2839	Intubation Cannula for Mouse, OD 1.2 mm, L 30 mm
73-2838	Intubation Cannula for Mouse, OD 1.1 mm, L 28 mm
73-0030	Intubation Cannula for Mouse, OD 1.0 mm, L 18 mm



The intubation cannula is used in chronic studies where the animal will be intubated. The outside diameter of the cannula must ensure a tight fit to the animal's trachea.

- Cannula only, for your own assembly
- Available in several sizes for various species

Item #	Species	Total Length (mm)	OD (mm)
73-0042	Rabbit/Small Cat	74	4.5
73-0041 Rat/Guinea Pig		63	3.5
73-0040 Rat/Guinea Pig		60	3.0
73-0039	Rat/Guinea Pig	50	2.5

73-2842	Rat/Guinea Pig	50	2.3
73-0038	Small Rat	50	2.0
73-2841 Small Rat		40	1.8
73-2840 Small Rat		37	1.5
73-2839 Mouse		30	1.2
73-2838 Mouse		28	1.1
73-0030	Mouse	28	1.0

Aerosol Nebulizer

The Aerosol Nebulizer is a jet nebulizer ideal for nebulizing drugs sensitive to ultrasonic cavitation and higher temperatures.

- Low particle sizes (100% of the nebulized particles are below 10 μm on fluids with a viscosity like a saline solution)
- No solution warming required
- Aerosol is automatically transported by compressed air
- Connecting block required to attach Nebulizer to HSE-HA single/double chamber plethysmograph or mouse plethysmograph
- Multigas Inlet Adapter (73-2919) required for use with MicroVent, MiniVent or MidiVent
- Available with Multi-Gas Adapter Kit for Chamber/Box use

Item No.	Description
73-1963	Aerosol Nebulizer
73-3433	Aerosol Nebulizer with Multi-Gas Adapter Kit and stand to use with Chamber/Box Use
73-2919	Multi-Gas Inlet Adapter and stand to connect Aerosol Nebulizer and MicroVent, MiniVent or MidiVent
73-3300	Aerosol Nebulizer Connection Kit for Pressure Regulator (1.5 to 2 bar, 22 to 30 PSI). Includes quick connector (shut off) and 2m pressure tube (ID 2mm, OD 3mm)



The Aerosol Nebulizer is a jet nebulizer ideal for nebulizing drugs sensitive to ultrasonic cavitation and higher temperatures.

- Low particle sizes (100% of the nebulized particles are below 10 μm on fluids with a viscosity like a saline solution)
- No solution warming required
- Aerosol is automatically transported by compressed air
- Connecting block required to attach Nebulizer to HSE-HA single/double chamber plethysmograph or mouse plethysmograph
- Multigas Inlet Adapter (73-2919) required for use with MicroVent, MiniVent, or MidiVent
- Available with Multi-Gas Adapter Kit for Chamber/Box use

This aerosol jet nebulizer requires an operating pressure of approximately 1.5 bar (22 psi) from a compressed air source. All of the particles generated by the jet nebulizer are 10 µm or less in size with 60% of the particles being 2.5 µm or less. A special connecting block is used to attach the nebulizer to the HSE-HA single and double chamber plethysmographs and are configured in a number of respiratory mechanics applications.

Particle Size, µm	% Nebulized	Particle Size Range in Band, μm	% of Total Particles in Band
10.5	100	13.6 to 10.5	0
8.19	99.7	10.5 to 8.19	0.2
6.37	98.0	8.19 to 6.37	1.7
4.97	92.2	6.37 to 4.97	5.8
3.88	80.9	4.97 to 3.88	11.3
3.04	68.3	3.88 to 3.04	12.6
2.40	61.5	3.04 to 2.40	6.8
1.90	57.7	2.40 to 1.90	3.8
1.52	54.5	1.90 to 1.52	3.2
1.22	52.0	1.52 to 1.22	2.5

Tracheal Cannulae with Luer Adapter

The tracheal cannula is used in a tracheotomy for general ventilation or respiratory mechanics studies. The outside diameter of the cannula must ensure a tight fit to the inside diameter of the animal's trachea.

- Luer-adapter for use with any Luer style connections, such as the Y-Luer Adapters
- Available in several sizes for various species

Related Items

Item No.	Description
73-2723	Tracheal Cannula for Rat/Guinea Pig with Luer Adapter OD 3.5 mm, L 24 mm
73-2724	Tracheal Cannula for Rat/Guinea Pig with Luer Adapter OD 3.0 mm, L 20 mm
73-2725	Tracheal Cannula for Rat/Guinea Pig with Luer Adapter OD 2.5 mm, L 17 mm
73-2726	Tracheal Cannula for Rat/Guinea Pig with Luer Adapter OD 2.3 mm L 14 mm
73-2727	Tracheal Cannula for Small Rat with Luer Adapter OD 2.0 mm, L 13 mm
73-2728	Tracheal Cannula for Small Rat with Luer Adapter OD 1.5 mm, L 10 mm
73-2729	Tracheal Cannula with Luer Adapter OD 1.5 mm, L 10 mm

Item No.	Description
73-2837	Tracheal Cannula for Mouse with Luer Adapter 1.3 mm, L 9 mm
73-2836	Tracheal Cannula for Mouse with Luer Adapter 1.2 mm, L 8 mm

Tracheal Cannula for Mouse with Luer Adapter 1.0 mm, L 8 mm



73-2835

DETAILS

The tracheal cannula is used in a tracheotomy for general ventilation or respiratory mechanics studies. The outside diameter of the cannula must ensure a tight fit to the inside diameter of the animal's trachea.

- Luer adapter for use with any Luer style connections, such as the Y-Luer Adapters
- Available in several sizes for various species

Note: The Luer adapter reduces the length of the cannula by approximately 4 mm.

Item #	Species	Length with Luer Adapter (mm)	OD (mm)
73-2723	Rat/Guinea Pig	24	3.5
73-2724	Rat/Guinea Pig	20	3.0
73-2725	Rat/Guinea Pig	17	2.5
73-2726	Rat/Guinea Pig	14	2.3
73-2727	Small Rat	13	2.0
73-2728	Small Rat	13	1.8
73-2729	Small Rat	10	1.5
73-2837	Mouse	9	1.3
73-2836	Mouse	8	1.2
73-2835	Mouse	8	1.0

Tracheal Cannulae with Y-Adapter

The tracheal cannula is used in a tracheotomy for general ventilation or respiratory mechanics studies. The outside diameter of the cannula must ensure a tight fit to the inside diameter of the animal's trachea.

- With Y-adapter for connecting to a ventilator, the outside diameter of the Y-adapter matches to most of the ports diameter of the ventilators
- Available in various sizes for several species

Related Items

Item No.	Description
73-2891	Tracheal Cannula for Rabbit/Small Cat, OD 6.0 mm, L 30 mm, with Large Y-Adapter (OD 10 mm)
73-2736	Tracheal Cannula for Rabbit/Small Cat, OD 5.0 mm, L 30 mm, with Large Y-Adapter (OD 10 mm)
73-2735	Tracheal Cannula for Rabbit/Small Cat, OD 4.0 mm, L 25 mm with Large Y-Adapter (OD 10 mm)
73-2734	Tracheal Cannula for Rat/Guinea Pig, OD 3.5 mm, L 25 mm, with Medium Y-adapter (OD 7.5 mm)
73-2733	Tracheal Cannula for Rat/Guinea Pig, OD 3.0 mm, L 20 mm, with Medium Y-adapter (OD 7.5 mm)
73-2732	Tracheal Cannula for Rat/Guinea Pig, OD 2.5 mm, L 20 mm, with Medium Y-adapter (OD 7.5 mm)
73-2834	Tracheal Cannula for Rat/Guinea Pig, OD 2.3 mm, L 20 mm, with Medium Y-Adapter (OD 7.5 mm)
73-4114	Tracheal Cannula for Small Rat, OD 2.0-mm, L 20 mm, with Small Y-Adapter (ID 3 mm OD 5 mm)

Item No.	Description
73-4113	Tracheal Cannula for Small Rat, OD 1.8-mm, L 15 mm, with Small Y-Adapter (ID 3 mm OD 5 mm)
73-4112	Tracheal Cannula for Small Rat, OD 1.5 mm, L 15 mm, with Small Y-Adapter (ID 3 mm OD 5 mm)
73-2730	Tracheal Cannula for Mouse, OD 1.3 mm, L 13 mm, with Y-adapter for Minivent
73-2830	Tracheal Cannula for Mouse, OD 1.2 mm, L 13 mm, with Y-adapter for Minivent (OD 3 mm)
73-2731	Tracheal Cannula for Mouse, OD 1.0 mm, L 13 mm,



The tracheal cannula is used in a tracheotomy for general ventilation or respiratory mechanics studies. The outside diameter of the cannula must ensure a tight fit to the inside diameter of the animal's trachea.

- With Y-adapter for connecting to a ventilator, the outside diameter of the Y-adapter matches to most of the ports diameter of the ventilators
- Available in various sizes for several species

Note: The Y-adapter reduces the length of the catheter by approximately 4 to 6 mm.

Recommended Cannulae:

- 73-2731, 73-2830, 73-2730: Micro Y-adapter for Minivent and MicroVent, for tubing ID 1.5 to 2.2 mm
- 73-4112, 73-4113, 73-4114: Miniature Y-adapter, for tubing ID 2.5 to 3.4 mm
- 73-2834, 73-2732, 73-2733, 73-2734: Medium Y-adapter, for tubing ID 6 to 7.4 mm
- 72-2736, 73-2819: Large Y-adapter, for tubing ID 7 to 10 mm

Item #	Species	Length with Y-Adapter (mm)	OD (mm)	Y-Adapter Size for Connection to Ventilator (mm)
73-2891	Rabbit/Small Cat	30	6.0	10
73-2736	Rabbit/Small Cat	30	5.0	10
73-2735	Rabbit/Small Cat	25	4.0	10
73-2734	Rat/Guinea Pig	25	3.5	7.5
73-2733	Rat/Guinea Pig	20	3.0	7.5
73-2732	Rat/Guinea Pig	20	2.5	7.5
73- 2834	Rat/Guinea Pig	20	2.3	7.5
73-4114	Small Rat	20	2.0	5
73-4113	Small Rat	15	1.8	5

73-4112	Small Rat	15	1.5	5
73-2730	Mouse	13	1.3	3
73- 2830	Mouse	13	1.2	3
73-2731	Mouse	13	1.0	3

Tracheal Cannulae (Cannula Only)

The tracheal cannula is used in a tracheotomy for general ventilation or respiratory mechanics studies. The outside diameter of the cannula must ensure a tight fit to the inside diameter of the animal's trachea.

- Cannula only, for your own assembly
- Available in several sizes for various species

Related Items

Item No.	Description
73-3319	Tracheal Cannula for Rabbit/Cat, OD 6.0 mm, L 40 mm
73-0036	Tracheal Cannula for Rat/Guinea Pig/Rabbit, OD 4.0 mm, L 32 mm
73-0034	Tracheal Cannula for Rat/Guinea Pig, OD 3.0 mm, L 25 mm
73-0033	Tracheal Cannula for Rat/Guinea Pig, OD 2.5 mm, L 25 mm
73-2829	Tracheal Cannula for Rat/Guinea Pig, OD 2.3 mm, L 25 mm
73-2828	Tracheal Cannula for Small Rat, OD 2.0 mm, L 25 mm
73-2827	Tracheal Cannula for Small Rat, OD 1.8 mm, L 20 mm
73-2826	Tracheal Cannula for Small Rat, OD 1.5 mm, L 20 mm

Item No.	Description
73-0028	Tracheal Cannula for Mouse, OD 1.3 mm, L 15 mm
73-2825	Tracheal Cannula for Mouse, OD 1.2 mm, L 15 mm

Tracheal Cannula for Mouse, OD 1.0 mm, L 15 mm



DETAILS

73-0029

The tracheal cannula is used in a tracheotomy for general ventilation or respiratory mechanics studies. The outside diameter of the cannula must ensure a tight fit to the inside diameter of the animal's trachea.

- Cannula only, for your own assembly
- Available in several sizes for various species

Item #	Species	Length (mm)	OD (mm)
73-3319	Rabbit/Cat	40	6.0
73-0037	Rabbt	35	5.0
73-0036	Rat/Guinea Pig/Rabbit	32	4.0
73-0035	Rat/Guinea Pig	30	3.5
73-0034	Rat/Guinea Pig	25	3.0
73-0033	Rat/Guinea Pig	25	2.5
73-2829	Rat Guinea Pig	25	2.3
73-2828	Small Rat	25	2.0
73-2827	Small Rat	20	1.8
73-2826	Small Rat	20	1.5
73-0028	Mouse	15	1.3
73-2825	Mouse	15	1.2
73-0029	Mouse	15	1.0

По вопросам продаж и поддержки обращайтесь:

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