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Anaesthesia and Surgery Short Catalogue

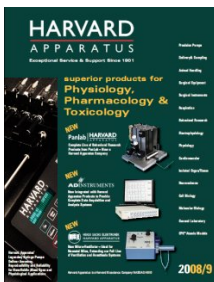
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Working with
Customers

Many Challenges.
One Solution.

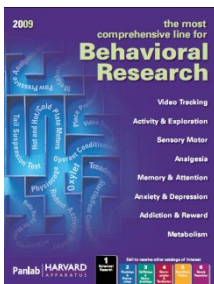
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Other Harvard Apparatus Catalogues Available



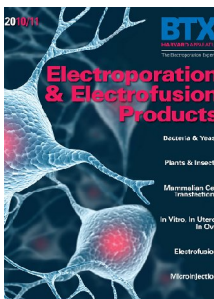
Physiology, Pharmacology and Toxicology 2008/2009

This 928 page catalogue features a broad range of products, including our legendary line of infusion and perfusion pumps, ventilators and anaesthesia systems, surgical instruments and equipment for small to larger animals, isolated organ and tissue systems for all levels of research and education. These products are designed to help you achieve better research results in less time.



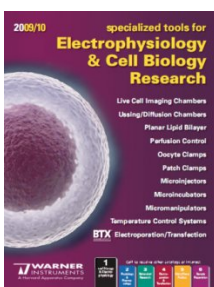
Behavioural Research 2009

This catalogue includes the following application areas: video tracking, activity/exploration, sensory motor, analgesia, memory, anxiety, metabolism, non-invasive blood pressure, and isolated physiology systems. Our team is ready to adapt, improve or develop new or pre-existing lines to meet our customer's changing requirements.



BTX Electroporation and Electrofusion Catalogue

BTX offers a comprehensive line of instruments and accessories for both electroporation and electrofusion of mammalian, bacterial, yeast, fungi, insect and plant cells and tissues. BTX specializes in providing research tools for novel cutting edge applications such as adherent cell electroporation, high-throughput cloning, in vivo gene delivery, in ovo gene delivery, and in & ex utero gene delivery.



Electrophysiology and Cell Biology 2009/10

For the electrophysiological, cellular, and neurological sciences. Our extensive product line includes voltage and current clamp amplifiers for whole-cell and patch applications. Bessel filters, chambers for imaging and recording systems, perfusion control systems and steppers, solution heating systems, microscope translation tables, microelectrodes and holders, and glass capillary tubing, plus now includes electroporation and transfection systems from BTX.

Anaesthesia

Regulations and administrative provisions of the Member States regarding the protection of animals used for experimental and other scientific purposes (86/609/EEC)

Article 8

1. All experiments shall be carried out under general or local anaesthesia.
 2. Paragraph 1 above does not apply when:
 - (a) anaesthesia is judged to be more traumatic to the animal than the experiment itself;
 - (b) anaesthesia is incompatible with the object of the experiment. In such cases appropriate legislative and/or administrative measures shall be taken to ensure that no such experiment is carried out unnecessarily.
- Anaesthesia should be used in the case of serious injuries which may cause severe pain.
3. If anaesthesia is not possible, analgesics or other appropriate methods should be used in order to ensure as far as possible that pain, suffering, distress or harm are limited and that in any event the animal is not subject to severe pain, distress or suffering.
 4. Provided such action is compatible with the object of the experiment, an anaesthetized animal, which suffers considerable pain once anaesthesia has worn off, shall be treated in good time with pain-relieving means or, if this is not possible, shall be immediately killed by a humane method.

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Trolley Anaesthesia Systems



Harvard Apparatus has developed an extensive range of off the shelf anaesthesia trolley systems, suitable for a wide range of applications. These mobile trolley systems come with: anti-static castors, stainless steel shelving, veterinary flowmeters, pin index regulators (suitable for E-size gas bottles).

Specifications

Height x Width x Depth 1415 x 480 x 720mm
Top Shelf Depth x Width 480 x 400mm

Complete Pre-Configured Systems

Please refer to the simple selection table below to select the appropriate trolley system for your requirements. Systems will include all necessary regulators, vaporisers, flowmeters and tube mounts and are supplied fully assembled and tested.

Order No #	Oxygen	N2O	Isoflourane Vaporiser	Halothane Vaporiser	Key Fill Vaporiser	Pour Fill Vaporiser	Low O2 Alarm	N2O cut off
34-1048	Y	-	Y	-	-	Y	-	-
34-1049	Y	-	-	Y	-	Y	-	-
34-1050	Y	Y	Y	-	-	Y	Y	Y
34-1051	Y	Y	-	Y	-	Y	Y	Y
34-1117	Y	-	Y	-	Y	-	-	-
34-1118	Y	-	-	Y	Y	-	-	-
34-1119	Y	Y	Y	-	Y	-	Y	Y
34-1120	Y	Y	-	Y	Y	-	Y	Y

Key

Y- Included with system

- - not included with system

Convert From a Gas Bottle to a Piped Gas Supply



Harvard Apparatus has developed a simple device, used to convert any anaesthetic trolley or bracket system with pin index regulator, to be able to receive gas supply from a wall mounted piped gas supply. Simply connect one end to your wall mounted supply, and then insert the specially designed pin index block into the pin index socket on your regulator. The length of high pressure hose supplied is 2m (please ask for the part numbers for alternative lengths of hose and gasses.)

Order No #	Description	Length of hose supplied
34-1064	Hose to pin index for Oxygen	2m
34-1065	Hose to pin index for Nitrous Oxide	2m

Modular Anaesthesia Trolley Systems

If our pre-configured systems do not meet your requirements, feel free to create your own from the following part numbers. You must order at least 1 item from each of the following sections to give a complete system: Trolley base unit, flowmeters, vaporiser and regulator. Items in **Green Bold** text are optional extras to enhance your system.

Trolley Base Unit – trolley only, contains no flow meters, regulators or vaporisers.

Order No #	Description
34-1266	Basic Mobile Anaesthetic trolley Base unit

Flowmeters for Anaesthetic Trolley

Order No #	Description
34-0403	Oxygen Flow meter (Needs Mounting plate 34-1268)
34-0404	N2O Flow meter (Needs Mounting plate 34-1268)
34-1126	Air Flow meter (Needs Mounting plate 34-1268)
34-1262	Twin flow meter for O2 and N2O
34-1263	Twin flow meter for O2 and Air

Vaporiser Options



Select your vaporiser of choice from the table below. All vaporisers are new and come with a 3 year warranty and service interval. Each vaporiser is calibrated specifically to the anaesthetic drug of choice. Please note, if ordering the Selectatec vaporiser, you will additionally need to order the compatibility block (34-1091) unless already owned. Specifications - 6.8kg

Anaesthetic Agent	Cage Mount	Selectatec
Isoflurane Pour Fill	34-1040	34-1259 + 34-1091
Isoflurane Key fill	34-1041	34-1172 + 34-1091
Halothane Pour Fill	34-1101	34-1260 + 34-1091
Halothane Key Fill	34-1102	34-1213 + 34-1091
Sevoflurane Pour Fill	34-1269	34-1271 + 34-1091
Sevoflurane key Fill	34-1270	34-1272 + 34-1091

Regulators For Modular Anaesthesia Trolley

Part Number	Description
34-1059	Nitrous pin index regulator for size E gas bottle
34-1060	Oxygen pin index regulator for size E gas bottle
34-1257	Air pin index regulator for size E gas bottle

Optional Extras

Order No #	Description	When needed
34-1264	Oxygen flush	To revive animal quickly with 100% O2
34-1165	Low Oxygen Alarm	When using bottle gas supply to warn when bottle needs changing (34-1265 needed in addition to complete)
34-1267	Nitrous Cut Off	When using a dual O2 and N2O system this will cut off N2O supply in low oxygen conditions)- 34-1265 needed to complete
34-1265	Oxygen reservoir	Needed when low oxygen alarm and nitrous cut off ordered.

Anaesthetic Bracket Units - Create Your Own System

Our anaesthetic bracket systems are an inexpensive alternative to our mobile trolley systems. They can be placed on laboratory benches and take up little space. Harvard Apparatus anaesthesia bracket units now have the ability to be wall or pole mounted. Simply select your **base unit**, **Flow meters**, **vaporiser**, and **regulator** part numbers. Once your order is placed, your bracket unit will then be assembled to your specification and supplied complete. (please remember to order tube mounts)

Base Unit Options – Large Bracket



Part Number	Description
34-1405	Large Bracket system 1-2 gas
34-1406	Wall mounting system for Large Bracket
34-0403	Oxygen flow meter for large bracket
34-0404	N2O Flow meter for Large bracket
34-1126	Air Flow meter for large bracket
34-1138	Carbon dioxide flow meter for large bracket
34-1067	Outlet tube mount 23mm for vaporiser
34-1068	Inlet tube mount 23mm for vaporiser
34-1264	Oxygen Flush system for rapid recovery

Small Bracket



Part Number	Description
34-1352	Small Bracket 1-2 gas
34-1404	Wall mounting system for Small Bracket
34-1420	Oxygen flow meter for small bracket 0.2 – 2.0 litre/min
34-1261	Nitrous Flow meter for small bracket 0.2– 2.0 litre/min
34-0781	Air Flowmeter for small bracket 0.2-2.0 litre/min
34-1067	Outlet tube mount 23mm for vaporiser
72-3044	Inlet Tube mount 23mm for vaporiser

Vaporiser Options



Select your vaporiser of choice from the table below. All vaporisers are new and come with a 3 year warranty and service interval. Each vaporiser is calibrated specifically to the specified anaesthetic drug. Please note, if ordering the Selectatec vaporiser, you will additionally need to order the compatibility block (34-1091) Specifications - 6.8kg

Anaesthetic Agent	Cage Mount	Selectatec
Isoflurane Pour Fill	34-1040	34-1259 + 34-1091
Isoflurane Key fill	34-1041	34-1172 + 34-1091
Halothane Pour Fill	34-1101	34-1260 + 34-1091
Halothane Key Fill	34-1102	34-1213 + 34-1091
Sevoflurane Pour Fill	34-1269	34-1271 + 34-1091
Sevoflurane key Fill	34-1270	34-1272 + 34-1091

Anaesthetic Bracket Systems Continued

Select your regulators and high pressure tubing below to complete your anaesthetic bracket system. For a complete system tube mounts also need to be purchased.



Regulators

Select your regulators for the anaesthetic carrier gasses that you require. Alternatively, if you have piped gas, please select the correct high pressure tubing assembly to flowmeter.

Part number	Description
34-1059	Nitrous Pin index regulator (E size Cylinder)
34-1060	Oxygen Pin index regulator (E-size Cylinder)
34-1257	Air Pin index regulator (E-size cylinder)
34-1392	Oxygen Bull nose regulator (F-Size cylinders)
34-1395	Nitrous Bull nose regulator (F-Size cylinders)
34-1393	Air bull nose regulator (F-size Clinders)

High Pressure Tubing Assemblies From Regulator to Flowmeter (including fittings)

Gas	2m Length	4m Length	6m Length
Oxygen	34-1353	34-1354	34-1355
Nitrous N2O	34-1356	34-1357	34-1358
Air	34-1359	34-1360	34-1361

High Pressure Hose Assemblies Piped Gas to Flowmeter (including fittings)

Gas	2m Length	4m Length	6m Length
Oxygen	34-1365	34-1366	34-1367
Nitrous N2O	34-1368	34-1369	34-1370
Air	34-1371	34-1372	34-1373

High Pressure Hose Assemblies DISS to Flowmeter (including fittings)

Gas	2m Length	4m Length	6m Length
Oxygen	34-1374	34-1375	34-1376

Mobile Anaesthetic Post System



Our new mobile anaesthetic post system is another innovative alternative to our mobile anaesthesia trolley systems. The post system consists of a stable wheeled base, with a sturdy support pole. Simply select your small anaesthetic bracket base unit from page 5, order the post system base unit, and your small bracket system will be manufactured with all necessary ports to slide onto the post system. This enables our bracket systems to be adapted into a wheeled solution for ease of use. Remember to include the regulator to flowmeter and high pressure hose set with your order to give you a complete system. Please note the post system can only accept size E gas bottles and therefore, to mount the gas bottle to the post, you will need to order pin index gas regulator.

Anaesthetic Post System and Regulators

Order No #	Description
34-1384	Basic Mobile Anaesthesia Post only
34-1060	O2 Pin index regulator for E size cylinders
34-1257	Air pin index regulator for e size cylinder

High Pressure Tubing Regulator to Flowmeter Assembly

Order No #	Description
34-1385	High pressure hose from O2 Regulator to flowmeter, includes connectors.
34-1386	High Pressure hose from N2O regulator to flowmeter, includes connectors.
34-1387	High Pressure hose from Air regulator to flowmeter, includes connectors.

Custom Built Options

With expertise in design and engineering, Harvard Apparatus Ltd has manufactured many items to our customers' specification. Pictured below is a complete down draft, height adjustable mobile



anaesthetising table. It has a built in power supply, gas regulators, flowmeters and Isoflourane vaporiser, high intensity cold light source, simple snap fit anaesthetic mask connections, surgical tray attachments and a heated surgical board. The height adjustment is made by a remote hand held controller and it has the possibility of 10 user defined pre-set heights .

If you have similar requirements, or need advice on another project, please feel free to contact us for a no obligation quotation.

Fluovac Anaesthetic Scavenging System



The Harvard Apparatus Fluovac system, incorporating the Fluosorber canister (not included), combines small animal anaesthesia with operator safety. The Fluovac provides a sensible answer to waste anaesthetic gasses in the operating room. This system was specifically designed to deliver anaesthetic gasses through a central mask and simultaneously remove excess waste gasses by suction from the outer mask. The fluovac is quiet and is a must for all veterinary operating theatres. Economical to use and easily adaptable, to all anaesthetic machines. Each Fluovac system includes a size 1 mask suitable for anaesthetising small rodents.

Part Number	Description
34-0388	Fluovac 110VAC, 60Hz including size 1 double mask
34-0387	Fluovac 240VAC, 50Hz Including size 1 double mask
34-1030	Fluovac 240VAC, 50Hz base unit only no masks supplied

Fluosorber Canisters



The Fluosorber consists of a canister containing activated carbon; this unit sits on top of the fluovac and adsorbs anaesthetic gas extremely efficiently, protecting you and your staff from dangerous waste gasses. Genetic mutations, cancer, complications during pregnancy, hepatic and renal disease, immunological effects and psychomotor changes have all been linked with exposure to trace anaesthetic gasses. Because most halogenated anaesthetic gasses can't be detected unless in high concentrations, proper scavenging is essential. The fluosorber can adsorb up to 200g of anaesthetic vapour before it is spent, giving it a much longer time span between changes compared with other scavenging products available. Connected by 22mm tubing
Specifications – Active canister weight 1200g, exhausted weight 1400g

Part number	Description
34-0415	Fluosorber canisters box of 6

Portable Scavenged Anaesthesia Table



Harvard Apparatus have developed a simple easy to use portable scavenged anaesthetic operating table for mice. Simply connect the anaesthetic delivery tube to your anaesthetic supply. Then connect the exhaust mount to your Fluovac scavenging system (22mm bore scavenge tubing). This will give you an inexpensive, portable, down-draft operating table. Tables can also be created for Rats - please ask for details.

Part No #	Description
34-1411	Scavenged Anaesthesia Platform
34-0909	22mm bore tubing to connect to Fluovac

Fluovac Masks



Harvard Apparatus are pleased to introduce the new Fluovac mouse mask; a single arm coaxial mask for the delivery and scavenging of anaesthetic gasses, utilising the Fluovac system.

Order No #	Description
34-1379	Fluovac mask size 0.5 single arm (mice)
34-0389	Fluovac mask size 1 dual arm (rat)
34-0390	Fluovac mask size 2 single arm (G. Pig)
34-0391	Fluovac mask size 3 single arm (rabbit)

Scavenged Anaesthetising Chambers



For use in conjunction with the fluovac. Easy to use – simply plug in a size 1 mask into the socket and turn on the fluovac and anaesthetic gas supply. When the animal(s) are anaesthetised the inner chamber slides forward allowing the gas supply to be diverted and the chamber scavenged. During this process fresh air is drawn into the inner chamber to help scavenge any residual anaesthetic.

Order No #	Description	Dimensions H x W x D
34-0455	Scavenged Anaesthetising chamber large	110 x 160 x 260mm
34-0456	Scavenged Anaesthetising Chamber Small	98 x 106 x 130mm

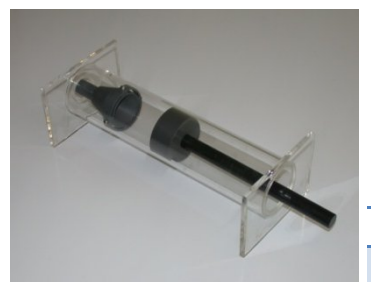
Fluovac Anaesthetising Chambers



Available as chamber only, or as full gas scavenging systems, including all necessary tubing, connectors and valves. The complete fluovac anaesthetising chamber utilises two direct valves; one is placed on the outlet tube mount of the vaporiser so that anaesthetic gas can be directed to either a face mask or induction box, and the other is placed on the fluovac so that gas can be scavenged from mask or chamber as required.

Order No #	Description	Dimensions H x W x D
34-0460	Anaesthetising Chamber Only Large	200 x 200 x 305mm
34-0462	Anaesthetising Chamber Only Small	134 x 128 x 170mm
34-0458	Large chamber gas scavenging system	200 x 200 x 305mm
34-0461	Small Chamber gas scavenging system	134 x 128 x 170mm

Fluovac Tube Restrainer



Used for induction of anaesthesia if the patient cannot be held at the Fluovac mask. Simply plug the Fluovac size 1 mask into the restrainer and insert your animal. The animal is then supplied with anaesthesia and the excess is scavenged. Internal diameter 57mm, length is adjustable up to 200mm.

Order No #	Description
34-0457	Fluovac tube restrainer

Anaesthetic Tubing and Accessories



Tube Mounts

Order No #	Description
34-1067	Outlet tube mount 23mm
34-1068	Inlet tube mount 23mm



Gas Flow Director

Used to direct the flow of gas to either or both outlets with a simple turn.

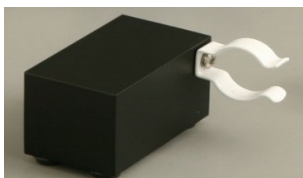
Order No #	Description
34-0393	Gas Flow director



Directavalves

Mounted on top of the Fluosorber, gas scavenged from one or other direction can be directed towards the fluosorber by a simple turn.

Order No #	Description
34-0459	Directavalve



Fluovac Mask Support

Designed to hold a fluovac mask in position on a flat surface.

Mask Size	0.5 (mouse)	1(rat)	2(G. Pig)	3(Rabbit)
Order No #	34-0394	34-0394	34-0395	34-0396

Tubing

Order No #	Description	Dimensions	Used for
34-0421	Silicone tubing 1m	6mm ID x 10mmOD	Anaesthetic gas delivery
34-0422	PVC Tubing 1m	6mm ID x 9mm OD	
34-0426	Corrugated plastic tubing 10m	To fit all 22mm male taper tube mounts	Scavenge of gasses
34-0424	Anti Static high pressure tubing oxygen (White)	6mm ID x 13mm OD	High pressure O ₂
34-0425	Antistatic high pressure tubing Nitrous Oxide (blue)	6mm ID x 13mm OD	High Pressure N ₂ O
34-0423	High pressure tubing for CO ₂	6mm ID x 13mm OD	High Pressure CO ₂

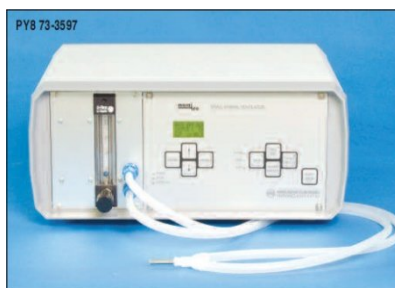
Ventilation

Harvard Apparatus manufacture a complete range of ventilators to cater for animals from prenatal mice up to large dogs, in both volume and pressure controlled models. For a complete range and technical specifications, please contact your local Harvard Apparatus office or distribution partner.



MiniVent - Ideal for mice, valveless piston pump adjustable from 60-400 breaths per min. 30-350ul stroke volume. Now available with gating, ideal for imaging applications.

Order No #	Description
73-0043	MiniVent Ventilator for Mice 115VAC
73-0044	Minivent Ventilator for Mice 230VAC
73-3077	MiniVent Anaesthesia machine connection kit



KTR-5 Ventilator – ideal for adaptation of respiration parameters to the most diverse experimental conditions. Different models available from mice to rabbits.

Versions	230VAC	115VAC	230VAC	115VAC
Rodent to Rabbit 1	73-3597*	73-3645*	73-3641	73-3646
Flow meter				
Mice 1	73-3640*	73-3647*	73-3642	73-3648
Flow meter				

*Indicates with built in pump for internal air supply



683 Small Animal Ventilator – ideal for rat ventilation 0.5 – 30cc tidal volume adjustment, 18-150 strokes per minute respiratory rate. Ability to monitor PEEP (Positive End Expiratory Pressure) ideal for animals from 250g – 10Kg.

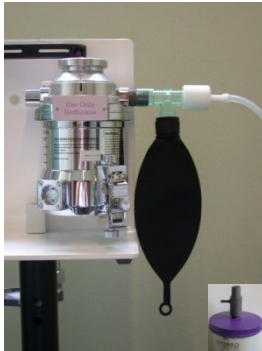
Order No #	Description
55-0000	Model 683 volume controlled Rodent ventilator
55-0001	Model 687 volume controlled mice ventilator



Inspira Advanced Safety Ventilator – Harvards first ventilator that can ventilate from mice(15g) up to cats (10kg) with the same machine. Available in volume and pressure controlled versions. Advanced features include Airway pressure monitoring, assist mode, programmable sigh breaths and adjustable I:E ratio.

Order No #	Description
55-7058	Inspira Volume controlled ventilator
55-7059	Inspira Pressure controlled Ventilator

Anaesthesia Ventilation Adaption Kit



Ventilation using gaseous anaesthesia can lead to under or overpressure of your ventilator anaesthetic gas supply. With this simple kit you can visually see the re-breathing bag either inflate, if you have your gas flow rate set too high, or deflate if it is too low. This kit includes a 500cc re-breathing bag, t-piece, tube mount and tubing. It also includes a venturi style scavenging adaptor for exhaust gases, suitable for placement on our Fluosorber canisters (Inset Picture)

Order No #	Description
34-1389	Anaesthesia Ventilation adaptor kit*

*Kit includes: 10-1354 – 23-22mm adaptor, 10-1382 – T-piece, 34-0400 – tube mount, 34-0825 – silicone tubing(5m), 34-1053 – rebreathing bag 500cc, 34-1081 – Venturi style 22mm scavenge adaptor with side arm

Intubation Platform



Harvard Apparatus Ltd is proud to introduce its brand new intubation platform. This has been specifically designed to allow the optimal insertion of tracheal cannulae prior to artificial ventilation. All sizes come with an adjustable incisor noose, to allow your subject to be hung from their front teeth. The rake of the board can then be adjusted to the optimal angle to allow you to see the correct placement of the cannulae. Available in 3 different models from mice up to large rats, with the angle being fully adjustable and locked into place by a simple thumb screw.

Order No #	Description	Platform Dimensions
34-1415	Intubation Platform Mouse	130 x 50mm
34-1416	Intubation Platform Small Rat	200 x 100mm
34-1417	Intubation Platform Large Rat	300 x 150mm

Anaesthetic Key Fill Applicators



To ensure leak free filling of your anaesthetic vaporiser select your key fill applicator here.

Order No #	Description
34-0401	Isoflurane Anaesthetic Key Fill Applicator
34-0772	Halothane Anaesthetic Key Fill Applicator
34-1391	Sevoflurane Anaesthetic Key Fill Applicator

Tracheal and Intubation Cannulae



Tracheal cannulae are used in a tracheotomy for general ventilation or respiratory mechanics studies. The outside diameter must ensure a tight fit to the inside diameter of the animals Trachea. Luer, y-adaptor and cannula only available.



Intubation Cannulae are used for chronic studies where the animal will be intubated. The outside diameter of the cannula must ensure a tight fit with the animals trachea. Luer, y-adaptor and cannula only available.

For a full range or advice please contact your local Harvard office or agent

Non-Invasive Anaesthetic Monitoring

Harvard Apparatus has introduced the NEW MouseOx™ to its range of products which can provide real-time, continuous measurements of multiple physiological signals from awake and anaesthetised animals.

NEW



Measurement parameters include Arterial O2 Saturation, Pulse Strength, Breath Rate, Blood Flow and Effort to Breathe. All of these measurements are done via a non-invasive sensor that was specially developed to provide accurate measurements for heart rates up to 900 BPM.

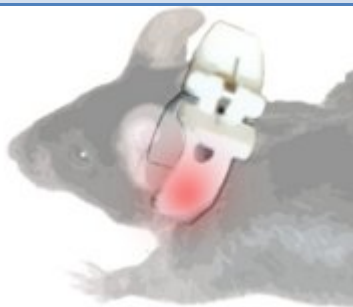
The MouseOx™ is ideal for monitoring subjects during surgery to prevent hypoxia during surgery and titrate mechanical ventilation. In addition, the MouseOx™ monitors the depth of anaesthesia, titrates supplemental oxygen, sets alarms and monitors in real-time every breath. The complete system involves animal restrainer, sensor, StarrLink box, and software

for data acquisition.

The software utilizes WinDaq Waveform Browser. Built-in statistics and filtering capabilities expand the system's flexibility. The waveform and real-time data point for each parameter measured is shown on the software. For a demonstration please contact your local Harvard Apparatus office or distribution partner.

For the full part number list please contact us

Order No #	Description
72-9601	Mouse Ox 3ft cable software and 1 sensor
72-9603	Starr link box 230V
72-9655	Mouse Ox with Analogue out module and economy collar clip sensor pack
72-9661	Mouse Ox with Analogue out module and MRI sensor
72-9678	Collar Clip economy starter set



New Non-invasive collar clip



Analogue Output box

Non-Invasive Blood Pressure Measurement - NIBP

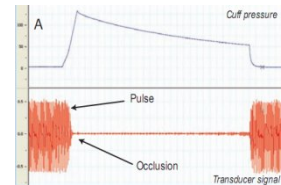


Harvard Apparatus NIBP system provides an easy and reliable method of obtaining systemic blood pressure and other cardiovascular parameters in rodents, without invasive catheterisation. With accurate measurements from conscious and anaesthetised animals, this device should be a standard within any pre-clinical laboratory.

With automatic cuff inflation, steady and consistent results are achievable.



A wide array of transducers, tail cuffs, and holders are available from small mice up to 500g rats.



Order No#	Description
76-0173	Basic unit for NIBP includes one transducer, one cuff one holder
76-0174	Standard unit for NIBP with memory and RS232 comms port, one holder, transducer and SeDaCom software
76-0175	Complete unit for NIBP with Scheduled data acquisition (up to 12 animals) memory and RS232 comms. Includes one holder, one transducer, one cuff and SeDaCom software

For complete selection of holders, transducers, heaters and accessories, please contact your local Harvard Apparatus Office or distribution partner.

Capnograph For Small Rodents



Capnography is the monitoring of the concentration or partial pressure of CO₂ in expired respiratory gases. Its main development has been as a monitoring tool for use during anaesthesia and intensive care. This fantastic new machine, in conjunction with the tracheal pressure and air flow sensor, has been developed specifically to measure the Endexpiratory CO₂ (ETCO₂), concentration in the expired air of rodents.

Other parameters measured include: Peak inspiratory Flow (PIF), Peak Expiratory Flow (PEF), tidal volume (TV),

respiratory rate (RR), peak tracheal pressure (TP) and peak end expiratory pressure (PEEP).

Order No #	Description
73-3809	Capnograph type 340, 230VAC, 50Hz
73-3815	Capnograph type 340, 115VAC, 60Hz
73-3817	Flow pressure sensor for mouse to capnograph, type 340
73-3817	Flow pressure sensor for rat to capnograph, type 340

Homeothermic Temperature Control

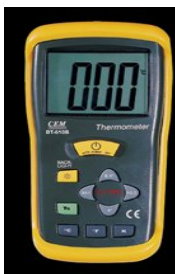


The Harvard Apparatus Homeothermic Blanket system allows for precise temperature management during surgery and recovery. With user defined alarms and simple operation, this unit is a must for every pre-clinical and veterinary operating theatre. Control temperature is adjusted using a rotary encoder and is constantly visible along with the actual temperature in the display panel. Temperature is measured

using a rectal feedback probe 1.5mmOD, which is small enough for mice, with 3 sizes of blankets available from the smallest rodent up to dogs. Special circuitry eliminates electrical noise, thus permitting sensitive recordings to be made whilst using this device. Temperature loss is one of the major contributory factors leading to loss of subject in small animal surgery, the harvard blanket system ensures temperature loss is not a concern.

Blanket System	115VAC, 60Hz	23VAC, 50Hz	Dimensions of Blanket
Rat Blanket System	50-7220-F	50-7221-F	150 x 200mm
Cat Blanket System	50-7222-F	50-7223-F	450 x 700mm
Dog Blanket System	50-7224-F	50-7225-F	600 x 900mm

Temperature Measurement



Temperature monitoring is essential especially in small rodents. This portable rugged digital thermometer is perfect for rectal temperature measurement of any rodent from mice upwards. With ability to measure in Celcius, Farenheight, or Kelvin, accuracy to 0.1 Celsius. It comes with backlight for dark environments and 1.5mm OD probe

Order No #	Description
34-1401	Portable digital thermometer including probe
34-1402	Replacement temperature probe

Small Animal Recovery Chamber / Warming Cabinet



Designed specifically as a post operative recovery chamber for small animals. The casing is ABS plastic and has a clear door manufactured from perspex. Optional dividers can be added to create two compartments. The operating temperature can be adjusted from 16°C to 45°C, the temperature can be boosted with fan assistance if required. Temperature is indicated on a digital display. Internal dimensions 380 x 270 x 210mm

Order No #	Description
34-0932	Small Animal Recovery chamber 115V
34-0516	Small Animal Recovery Chamber 230V
34-0934	Divider (creates two compartments in chamber)

Surgical Tables – Large



The Harvard Apparatus large animal operating tables can lift a weight of up to 150Kg from 490mm, up to a height of 970mm. This minimises operator lifting injuries within a veterinary or pre-clinical operating theatre environment. These tables are available in heated and non heated options. All Tables measure 1200mm x 600mm. All table surfaces are made from the finest quality AISI-316 stainless steel. Other table surfaces are available, including rubber and laminate. Each table comes with locking castors and remote handheld operating device.

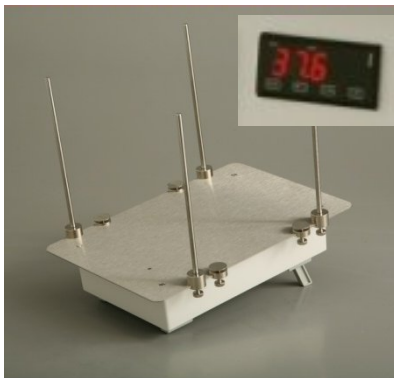
Description	230V	115V
Large operating table Fixed top, heated surface	34-1019	34-1020
Large operating table Tilt Mechanism, heated surface,	34-1021	34-1022
Large Operating table Tilt mechanism, heated surface and accessories*	50-1387	50-1361
Large Operating Table Base Only	34-0306	34-0924
Large Operating table Stainless steel top only	34-0307	34-0307
Large Operating Table Tilt mechanism only	34-0312	34-0312

*accessories include stainless steel instrument tray, removable vertical rods and tying cleats



All heated tables come with power sockets to provide a power source for other equipment, and a digital heater controller to control the table surface temperature (as pictured left).

Surgical Tables – Small



Harvard Apparatus manufacture a range of small animal heated tables ideal for rodent surgery. They can be heated by a constant power supply, and maintain a constant surface temperature, or can be connected to our Homeothermic blanket system for optimal temperature control. Other options including cork surface heated tables are also available, please ask for further details.

Order No #	Description	Specifications
50-1239	Heated Sm. Animal operating table	115VAC, 60Hz
50-1247	Heated Sm. Animal operating table	230VAC, 50Hz
50-7152	Homeothermic Operating Table*	230VAC, 50Hz

*Homeothermic blanket unit needs to be purchased additionally to control the temperature (50-7221-F)

Surgical Instruments

Harvard Apparatus introduces its new range of surgical instruments. Manufactured in Germany, our range of surgical instruments offer exceptional quality and value. Harvard Apparatus offer additional savings in value and convenience by offering kits comprising items commonly used together. For individual items, or to receive additional information on our extensive surgical instrument range please contact your local Harvard Apparatus office or local distribution partner.



Minor Surgery Kit

Order No #	Description
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72-8940	Minor Surgery Surgical Kit*
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*This Kit comprises of the following items, 72-8350 – Scalpel handle No3, 72-8361 – Scalpel blades No10 sterile, 72-8441 – eye scissors 11.5cm curv special cut, 72-8906 – Blumenthal bone rongeurs, 72-8450 – Universal clothing scissors, 72-8393 – operating scissors 14.5cm sh/bl, 72-8676 – Kuehne cover glass forceps 10cm, 72-8696 – Jeweller's forceps No 5 11cm, 72-8912 Probe 14.5cm double ended 1mm diameter.



Deluxe Major Surgical Kit

Order No #	Description
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72-8941	Deluxe Major Surgical Kit*
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*This kit comprises the following items: 72-8350 – Scalpel handle No3, 72-8361 – Scalpel blades No10 sterile, 72-8362 – scalpel blades No11 sterile, 72-8508 – Vannas eye scissors 8.5cm, 72-8899 – Olsen-Hegar needle holders with scissors TC insert, 72-8440 – Eye scissors 11.5cm st, 72-8696 – Jeweller's forceps No 5 11cm, 72-8598 – Graefe Iris Forceps 7cm curved serrated, 72-8394 – Ultra edge operating scissors 14.5cm sh/bl straight, 72-8450 – Universal clothing scissors, 72-8905 – Friedman bone rong delicate, 72-8547 – Adson tissue forceps 12cm 1x2 teeth, 72-8919 – Barraquer (colibri) eye specula large, 72-8912 Probe 14.5cm double ended

1mm diameter.



Rat Surgical Kit

Order No #	Description
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72-8942	Rat Surgical Kit
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*This kit comprises the following items: 72-8372 – disposable scalpels with plastic handle No11 sterile Pk 10, 72-8696 – Jeweller's forceps No 5 11cm, 72-8503 – Vannas eye scissors 8.5cm straight, 72-8604 Graefe Iris forceps serrated 10cm, 72-8440 – Eye scissors 11.5cm st, 72-8919 – Barraquer (colibri) eye specula large, 72-8844 – Olsen-Hegar needle holder with scissors 11.5cm, 72-8912 Probe 14.5cm double ended.



Mouse Surgical Kit

Order No #	Description
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72-8943	Mouse Surgical Kit
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*This kit comprises the following items: 72-8372 – disposable scalpels with plastic handle No11 sterile Pk 10, 72-8696 – Jeweller's forceps No 5 11cm, 72-8503 – Vannas eye scissors 8.5cm straight, 72-8604 Graefe Iris forceps serrated 10cm, 72-8919 – Barraquer (colibri) eye specula large, 72-8912 Probe 14.5cm double ended, 72-8826 – Derf Needle holders 12cm, 72-8426 – eye scissors 10.5cm straight.

Surgical Instruments / Accessories

Auto Clip System

The Autoclip® system provides a rapid, easy to use method to securely close wounds. When healed, simply remove the clip using removal forceps. The Auto clip system provides maximum holding force with minimal trauma.



Order No #	Description
34-0557	Auto Clip Veterinary kit including applicator, removal forceps and 100 clips
34-0554	Auto clip Applicator
34-0556	Auto clip Removal Forceps
34-0555	Auto clip Clips Box 500

Biopsy Ear Punch

The New biopsy punch, from Harvard Apparatus has a dual cutting edge that cuts rather than tears, causing minimal trauma, making this an ideal tool for biopsy collection from or marking of laboratory rodents ears. It is available with or without handy tube holder allowing hands free sample collection. Different gap sizes are available for mouse (1.5mm) and rat ears (2.5mm)



Order No #	Description
34-1061	Biopsy punch with 1.5mm Gap
34-1175	Biopsy Punch with 1.5mm gap with Tube holder
34-1197	Biopsy Punch with 2.5mm gap
34-1198	Biopsy Punch with 2.5mm Gap with tube holder

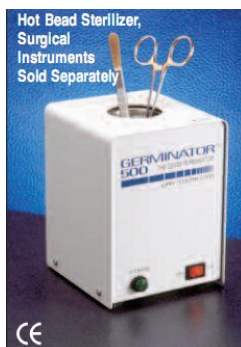
Contura Cordless Clipper



The Contura cordless trimmer with ergonomic handle delivers the closest shave, is the ideal hair removal tool for small animal pre-operative use. Supplied with blade and re-charging stand.

Order No#	Description
34-0243	Contura Cordless Clipper 230VAC, 50Hz
34-0244	Spare Blades for Contura Clipper

Hot Bead Steriliser



This compact unit provides a quick and easy way to sterilise surgical instruments. Heated to 240°C, within 15 seconds, the submerged portion of the instrument will be sterilised. Ideal for avoiding cross-contamination, and ensuring the continuity sterilised instruments during long term surgery. Replacement glass beads are available.

Order No #	Description
34-0575	Hot bead instrument Steriliser 240VAC
61-0183	Hot Bead Steriliser 120VAC
34-0576	Replacement glass beads

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