Animal Reproduction Technology
Canine
We need detailed knowledge of reproductive physiology in order to ensure that you are successful in the use of artificial insemination. Veterinarians and agro-scientists specialized in this field therefore are responsible at Minitube for product development and for consulting with our clients. The technical demands of semen processing and preservation also require knowledge and expertise in other fields, such as electronics, sensor technology, mechanics, chemistry, cryobiology and many others. At Minitube, these demands are met by specially trained engineers and scientists.

For product development, our teams of veterinarians and engineers cooperate closely. Together, they offer all the knowledge and experience necessary to guarantee the best possible results.

Minitube offers you specialized training programs, courses and technology transfer. In close cooperation with renowned research institutions, we conduct fundamental research concerning assisted reproduction technologies as well as applied research that leads to improved techniques in production, evaluation and conservation of semen and embryos.

Originating in Tiefenbach, Bavaria, Minitube has established its competence over many years in more than 100 different countries all over the world. With several companies, highly trained local representatives, and multilingual professionals, we keep in contact with the international AI industry. Innovative ideas, modern production techniques and a keen appreciation of product quality are the basic ingredients of our knowledge and your success.

We thank you for your interest and your confidence placed in us.

Dr. Christian Simmet
CEO

We look forward to your orders and inquiries:

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www.minitube.com
**Electro ejaculator**

**Electro ejaculator set**, consisting of heavy-duty carrying case, control unit, battery and transformer/charger.

- Digital display and adjustment of the actual value in 0.5 volt steps
- Fully portable with remote control
- Manual adjustable pulse/pause ratio
- Power output with 4 different types of curves enabling balanced setting according to the animal’s size and sensitivity
- Power supply: 115 V/60 Hz or 230 V/50 Hz

Electro ejaculator

**REF. :** 11900/0000

Probes in different sizes available, e.g.

- Electro ejaculator probe 3/8", Ø 0.95 cm
  
  **REF. :** 11900/0509

- Electro ejaculator probe 1/2", Ø 1.27 cm
  
  **REF. :** 11900/0510

For veterinarian use only - Anesthesia needed!
Canine collection system

Your benefits

- Color-coded funnels to divide the different ejaculate fractions: dividing the fractions is useful in preventing unwanted bacteria and contaminations by prostatic fluid
- Allows examination of stud dog penis while being collected
- Spill-proof funnel design prevents accidents during the collection process
- Non-spermicidal materials are easy to clean, sterilize and re-use
- Samples are immediately ready for analysis, centrifugation or further processing

Components

- 3 color-coded funnels (red, white and blue)
- 4 centrifugation tubes, 15 ml each, graduated, plastic, with lid (also separately available: Ref.: 17500/0201)

Canine collection system

(1) for small breeds
(height of funnel without spout: 5.5 cm)  
REF. : 17500/0203

(2) for all breeds
(height of funnel without spout: 7.5 cm)  
REF. : 17500/0200

Alternative

Semen collection funnel, disposable, 100/box  
REF. : 11521/0000

Accessories

Semen collection glove, extra sensitive, sperm safe, 100/box
Size M  
REF. : 11128/0055
Size L  
REF. : 11128/0060
Size XL  
REF. : 11128/0065
Size XXL  
REF. : 11128/0070

ReproJelly, non-spermicidal lubricant, water soluble, tube with 100 ml, resealable  
REF. : 11907/0100
Photometer SDM 1

The SDM 1 is a compact, highly accurate photometer developed for measuring sperm cell concentrations. It can be calibrated for canine, bovine, equine, porcine, ovine and caprine. Cleaning is simple, maintenance is minimal.

- Raw semen samples can be used without dilution
- LED light source provides stable output
- Cuvette is securely fixed in the correct measuring position
- Calibration is performed automatically with each sample measurement
- Semen concentration is displayed in million sperm cells/mL
- Power supply: with included mains adapter 100 – 240 V or batteries

Photometer SDM 1, calibrated for canine semen  [REF. : 12300/0103]

Accessories

Microcuvette for SDM 1, 100/box  [REF. : 12300/1111]

Multispecies software
for re-programing to other species  [REF. : 12300/0130]
AndroVision®

This highly precise automated system for computerized semen analysis stands out for the integration of the classic CASA analysis with more advanced assays for sperm functionality.

Concentration and motility, acrosome integrity, viability, mitochondrial activity and DNA integrity can be assessed fast and accurately with up to 1000 cells per field, making AndroVision® the perfect tool for the objective and complete semen evaluation.

Its features make AndroVision® the ideal choice for semen assessment in a research and production lab. AndroVision® is intuitive and easy to use: only 3 clicks from start to result.

AndroVision® software, with PC and accessories  REF. : 12500/0000
AndroVision® high speed color camera  REF. : 12500/4400

AndroVision® software modules

**Morphology and Morphometry**
Interactive system for analysis of sperm morphology and morphometry. Identifies sperm in stained as well as unstained samples and measures length and width of the sperm head, head shape and midpiece asymmetry of each single sperm cell (acc. to Kruger). Results can be classified into a large range of morphologic abnormalities.

*Module Morphology and Morphometry*  REF. : 12500/1300

**Viability**
Automated count of the percentage of membrane intact sperm, based on a double stain fluorescence assay.

*Module Viability*  REF. : 12500/1300

**Acrosome Integrity**
Automated count of percentage of sperm with damaged acrosome, based on a double stain fluorescence assay.

*Module Acrosome Integrity*  REF. : 12500/1400

**Mitochondrial Activity**
Automated count of percentage of sperm with active mitochondria, based on a double stain fluorescence assay.

*Module Mitochondrial Activity*  REF. : 12500/1500

**DNA Integrity**
Automated reporting of the percentage of sperm with defective DNA based on the halo-technique combined with fluorescent staining.

*Module DNA Integrity*  REF. : 12500/1600

* requires fluorescence microscope
Semen Evaluation

SpermVision® SAR

Highly efficient, flexible and sophisticated digital tool for evaluating sperm cells in small animal reproduction. Concentration, motility, morphology and viability can all be accurately assessed, making SpermVision® SAR an essential tool for everything from donor evaluation to semen processing.

The user interface is straightforward, easy to use and can be customized through the preference menu to suit individual needs. SpermVision® SAR ensures evaluation integrity of both new and archived records through a password-protected multilevel operational system. These features and many more make SpermVision® SAR ideal for the small animal reproductive specialist.

System includes

- SpermVision® SAR software
- Rapid scan digital camera
- Zeiss Axioslab microscope 10x, 40x phase objective, Turret condenser, phototube C-mount, integrated heated stage
- LD A-Plan 20x PH1 negative phase objective
- PC with integrated LCD monitor
- Temperature control unit for heated stage with warming plate

**SpermVision® SAR**

| REF. : 12520/5000 |

Optional upgrades

Upgrade to **Research Version** of SpermVision®; includes: comparative analysis report module, tank management module, all sperm motion characteristics, user-defined settings

| REF. : 12520/5010 |

Comparative analysis report module for SAR, allows for quick comparison of data from multiple ejaculates or evaluations of the same ejaculate over time; includes: software, license and USB hardware lock

| REF. : 12520/5020 |

Semen tank inventory management module for SAR allows semen inventory to be entered and tracked across multiple tanks; includes: software, license and USB hardware lock

| REF. : 12520/5030 |

Viability and fluorescence microscope upgrade for SAR; includes: high-resolution color camera, Zeiss C-mount adapter, Zeiss Axioslab A1 fluorescence LED light source, filter set and two-port camera adapter (Research Version upgrade required)

| REF. : 12520/6080 |
SEMEN EVALUATION

**Phase contrast microscope MBL**

Functional microscope for semen analysis with heating system and temperature control unit for individual temperature adjustment.

**Binocular**, objectives 10x, 40x, 100x, temperature control unit HT 50

![Image of microscope with binocular objectives and temperature control]

REF. : 12010/2000

with ocular color camera (1) and 11.6" monitor (2)  
REF. : 12010/2100

**Trinocular**, objective 20x

![Image of microscope with trinocular objective and temperature control]

REF. : 12010/2103

with temperature control unit HT 50

with temperature control unit HT 200, additional warming plate, ocular color camera and 24" monitor  
REF. : 12010/2101

(1) Digital color camera for microscopes  
REF. : 12110/1600

(2) Monitor 11.6" with HDMI input  
REF. : 12110/1610

**Semen dyes**

**Spermac**, for morphological evaluation, 4 x 50 ml  
REF. : 15405/0000

**Farelly stain**, for morphological evaluation, 3 components, 250 ml each  
REF. : 15405/0026

**Eosin G**, solution for supravital staining, 50 ml  
REF. : 15405/0025

**Nigrosin**, solution for supravital staining, 50 ml  
REF. : 15405/0029

**Microscopy supplies**

**Microscope slide**, 76 x 26 mm, 50/box  
REF. : 15400/2400

**Cover glass**, 18 x 18 mm, 100/box  
REF. : 15401/0990

**Immersion oil**, 8 ml  
REF. : 12000/0101

**Counting chambers (hemocytometers)**

**Thoma new**  
REF. : 15150/4771

**Neubauer improved**  
REF. : 15152/4421

**Bürker**  
REF. : 15153/0000

**Pipettor**

**Adjustable single channel pipette**, yellow, autoclavable, 10 - 100 µl  
REF. : 12425/4810

**Pipette tip**, 10 - 100 µl, yellow, 1000/bag  
REF. : 12425/9409

www.minitube.com
Semen Dilution

**Water bath**

Electronic temperature control, stainless steel, with grid and lid.

**7 l**
inner dimensions: 240 x 210 x 140 mm (W x H x D)

230 V/50-60 Hz  
115 V/60 Hz  

REF. : 14078/0001  
REF. : 14078/0002

**10 l**
inner dimensions: 350 x 210 x 140 mm (W x H x D)

230 V/50-60 Hz  
115 V/60 Hz  

REF. : 14079/0001  
REF. : 14079/0002
## SEMEN EXTENDERS

### CaniPlus Chill ST
- Short-term culture medium for canine semen (≤ 5 days)
- Ideal for short term shipping
- Animal protein free

CaniPlus Chill ST, 20 ml | REF. : 13700/0040

### CaniPlus Chill LT
- Long-term culture medium for canine semen (≤ 10 days)
- Ideal for international / domestic shipping
- Animal protein free

CaniPlus Chill LT, 20 ml | REF. : 13700/0045

### CaniPlus Chill 10
- Long-term culture medium for canine semen (≤ 10 days)
- Ideal for international / domestic shipping
- Requires addition of fresh egg yolk

CaniPlus Chill 10, 20 ml | REF. : 13700/0025

### CaniPlus Freeze One-Step
- One-step culture medium for freezing canine semen
- Requires addition of fresh egg yolk
- Contains glycerol

CaniPlus Freeze One-Step, 20 ml | REF. : 13700/0060

### CaniPlus Freeze Two-Step
- Two-step culture medium for freezing canine semen
- Requires addition of fresh egg yolk
- Fraction B contains glycerol

CaniPlus Freeze Two-Step, 20 ml | REF. : 13700/0065

### CaniPlus AI
- Culture medium for thawing canine semen and for artificial insemination (AI)
- Contains motility enhancing ingredients
- Ideal for all AI, especially when using poor quality or low volume semen
- Animal protein free

CaniPlus AI, 20 ml | REF. : 13700/0070
Semen Storage and Transport

Neopor transport box

Minitube transport box made of highly insulating Neopor, holds optimal temperature for approx. 45 hours.

Includes

- Neopor container
- Cardboard container cover
- Two ice packs (refreezable)
- Two tubes, 13 ml for either semen or extender
- One 50 ml vial
- 5 ml syringe
- 10 ml syringe
- Two protecting caps for Luer end of syringe

Neopor transport box

Product available worldwide, not sold in the US and Canada

REF. : 17229/0005
Canine semen transport box

The canine transport box is designed to maintain chilled canine semen at approx. 4°C (± approx. 3°C) inside the container for approx. 45 hours based on an ambient temperature of +22°C.

Includes

- Ultra-dense styrofoam container
- Cardboard container cover
- Two ice packs (refreezable)
- Two 13 ml buffer tubes for semen or extender
- Two 50 ml conical bottom tubes as protector for 13 ml tubes
- 5 ml syringe
- 10 ml syringe

Canine semen transport box  REF.: 17229/0010
Straw Processing and Freezing

MPP Uno

Automatic filling and sealing machine for 0.25 and 0.5 ml straws.

Product features

- Seals and fills 1 straw per cycle (ideal for handling small volumes)
- Sealing performed by ultrasound
- Conversion between 0.25 ml straws and 0.5 ml straws without exchanging any parts and within only a few minutes
- Very compact device which takes up little space
- Vacuum pump and pressure controller integrated into the device
- Ultrasonic generator in an external casing that can be installed at a distance of up to 2.5 m (ON/OFF switch directly on the machine)
- Completely closed filling and sealing area: best hygienic and safety conditions fully guaranteed

Technical features

- Capacity: approx. 4000 straws/hour
- Hopper capacity: 2200 straws of 0.25 ml or 1300 straws of 0.5 ml
- Machine dimensions: 460 x 350 x 410 mm (W x H x D) plus ultrasound generator
- Power supply: 110 V/60 Hz or 230 V/50 Hz

MPP Uno, complete

REF. : 13017/0000

Accessories

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<th>Item</th>
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<td>Straw hopper, for 0.25 and 0.5 ml straws</td>
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<tr>
<td>Filling nozzle 0.25 ml</td>
<td>13017/0012</td>
</tr>
<tr>
<td>Filling nozzle 0.5 ml</td>
<td>13017/0017</td>
</tr>
<tr>
<td>Suction nozzle 0.25 ml</td>
<td>13017/0022</td>
</tr>
<tr>
<td>Suction nozzle 0.5 ml</td>
<td>13017/0027</td>
</tr>
<tr>
<td>Washer for 0.25 ml and 0.5 ml nozzles, 5000/bag</td>
<td>13021/3001</td>
</tr>
<tr>
<td>Filling and suction tubing, 380 mm, sperm friendly material (silicone), bevelled edge, 100/aluminum foil bag</td>
<td>13021/3800</td>
</tr>
<tr>
<td>Fixing unit for filling and suction blocks, stackable, stainless steel</td>
<td>13017/0050</td>
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</table>
STRAW PROCESSING AND FREEZING

EasyCoder

Clean and odorless printing of straws without ink and solvents.

Product features

- Thermal transfer printer with automatic straw supply (output: 3600 straws per hour) for immediately non-abrasive print
- Unparalleled neat and clear printing on 0.5 and 0.25 ml straws; easy and quick conversion between different straw sizes
- Prints up to 3 lines per straw, including barcodes, logos and specific characters
- Control via PC by a clear and user-friendly Minitube software
- Easy handling, little maintenance required
- Dimensions (L x W x H): 660 x 370 x 310 mm (PC not included)
- Power supply: 110 V/50-60 Hz or 230 V/50-60 Hz

EasyCoder printer  REF. : 13038/0000
Thermal transfer ribbon, black  REF. : 13038/0010

MultiCoder

Professionalize your lab process with quick and easy machine readable labeling of samples.

Your benefits

- Very versatile: print system can label most kinds of materials such as plastics, glass or aluminum
- Manually moveable slide and a unique, easy-to-use carrier system allow for a speedy work process
- Easily writeable information on the smallest amount of space, including text, barcode, QR-Code and logo

Product features

- High resolution inkjet printing
- Print head protection system (avoids drying-out of ink)
- Sensor based technique for print activation allows perfect manual workflow
- LED signalling of printer status
- No tools needed for change of product carriers
- Pre-designed print layouts
- Upload of MS Excel based data formats possible
- Automatic creation of content for ready-to-print designs via database

MultiCoder printer  REF. : 13145/0000

More information needed?
Please ask for the MultiCoder leaflet!

www.minitube.com
CryoSealer

Manual sealer using ultrasound technology. Can be used for 0.25 and 0.5 ml straws. Ultrasound welding facilitates a perfect and uniform seal of each straw. Power supply: 100V-240V/60Hz

Micropipettors

Micropipettors for filling of straws with semen. Easy and precise pipetting by handling wheel, for all sizes of capillary tubes up to 1 ml.

Type A

Type B

Manual ball sealer

Manual ball sealer for 0.5 ml straws

Sealing balls

Glass balls available in multiple colors:

glass, for 0.25 ml
metal, for 0.25 ml
glass, for 0.5 ml
metal, for 0.5 ml

Manual sealer for straws

Securely seals all kinds of straws by applying heat at the end of the straws. Also seals in liquid nitrogen vapour. Consists of a plier welding head adapted for straws and a control unit for varying heat level.

Labelling of straws

Pen for marking, very fine, alcohol permanent, black
STRAW PROCESSING AND FREEZING

Automatic freezer IceCube

Computer controlled freezer with convenient data input and automatic recording of the freezing curve.

**Product features**

- Temperature range: +40 to -180°C
- Freezing rates: 0.01 to +60°C/min
- Heating rates: 0.01 to +15°C/min
- Display accuracy: 0.01°C
- Temperature measurement via 2 Pt-100 resistance thermometers
- Capacity: approx. 900 straws per freezing cycle
- Dimensions: 540 x 420 x 520 mm (l x w x h), weight: 29 kg

Software for freeze program and control, unlimited storage of programs and processed files, color graphic display of all temperature curves, wide possibility of parameter settings.

**IceCube 14S**, with connector kit for LN2 pressure container,

(1) with 10” tablet  
with 12” touch screen monitor,  
to connect to own PC or laptop  
without screen, to connect to own PC or laptop

**Accessories**

- (2) Rack for IceCube 14S, holds 36 straws  
  REF. : 16821/5036
- (3) Handling rack for IceCube 14S  
  REF. : 16821/5030
- Loading device for straw rack  
  REF. : 16821/5037
- (4) Spacer for IceCube  
  REF. : 16821/5018
- Liquid Nitrogen pressure container, 60 l  
  REF. : 16820/1900
- Roller base for LN container  
  REF. : 16501/0204
- Pliers for racks  
  REF. : 16821/5031

**Semen straws**

- **MiniStraw**, 0.25 ml, clear, 2000/bag  
  REF. : 13407/0010
- **MediumStraw**, 0.5 ml, clear, 2500/bag  
  REF. : 13408/0010
- **EcoStraw**, 0.25 ml, clear, 2000/bag  
  REF. : 13407/3010
- **EcoStraw**, 0.5 ml, clear, 2500/bag  
  REF. : 13408/3010

EcoStraws feature a plug with a shorter inner wick section that absorbs 3-4% fewer sperm cells than the corresponding symmetrical plugs of standard semen straws. They are ideal for overnight equilibration of semen at refrigerated temperatures. EcoStraws are used in exactly the same way as standard semen straws.

Semen straws made by Minitube are available in many different colors, and pre-printed upon request.

www.minitube.com
STRAW PROCESSING AND FREEZING

Freezing units

The freezing units are compact and easy to handle. They are made of a styrofoam box of high quality, an inner container of stainless steel and a floating rack. The stainless steel container is filled with liquid nitrogen. The rack keeps the needed distance between 0.5 ml or 0.25 ml straws during the first down phase, while it floats on liquid nitrogen. After that, the straws get manually immersed into the nitrogen.

Product features

- Distance between straws and liquid nitrogen level can be adjusted
- Fits 0.5 ml and 0.25 ml straws
- Low nitrogen consumption
- High quality styrofoam chest and stainless steel inner box
- Easy transport

(1) for 20 straws  REF. : 15043/0636
(2) for 90 straws  REF. : 15043/0736

Accessories

Loading block for 90 straws floating rack  REF. : 15043/0738

Additional rack
(3) for freezing unit for 20 straws  REF.: 5015043/0600
(4) for freezing unit for 90 straws  REF.: 5015043/0900

Storage systems for straws

Short and long triangular cassettes
for 10/20 straws 0.5 ml or 28/56 straws 0.25 ml  REF.: 16981/xxxx

Short and long flat cassettes
for 3/6 straws 0.5 ml or 6/12 straws 0.25 ml  REF.: 16980/xxxx

Available in multiple colors.

Goblet, diameter 65 mm, white, 25/bag  REF.: 16965/0133
Goblet, diameter 35 mm, white, 25/bag  REF.: 16935/0135
Goblet, diameter 13 mm, white, 300/bag  REF.: 16913/0133
Goblet, diameter 10 mm, white, 300/bag  REF.: 16910/0010
Goblet, diameter 7.1 mm, white, 500/bag  REF.: 16907/0071

Goblet canes,
for 2 x 10 mm goblets  REF.: 16965/6000
for 2 x 13 mm goblets  REF.: 16965/6013

Divider for goblets, 100/bag, 12 cm  REF.: 16967/0065

Identification rod, 140 mm length
for 0.25 ml straw  REF.: 16903/0210
for 0.5 ml straw  REF.: 16903/1210
Cryo container (MVE storage container)

**ET 20** with 6 canisters 279 x 73 mm; capacity: 3732 x 0.5 ml semen straws; normal working duration: 107 days; neck opening: 55 mm; total height: 627 mm; weight (full): 26 kg

REF. : 16503/2056

**ET 35** with 6 canisters 279 x 108 mm; capacity: 3732 x 0.5 ml semen straws; normal working duration: 175 days; neck opening: 55 mm; total height: 679 mm; weight (full): 42 kg

REF. : 16503/3606

**ET 40-10** with 10 canisters 279 x 73 mm, capacity: 16400 x 0.5 ml semen straws; normal working duration: 59 days; neck opening: 127 mm; total height: 670 mm; weight (full): 45 kg

REF. : 16503/3710

Vapor shipper

**SC 4/2**, 1 canister, 278 x 67 mm, capacity: 3.6 l liquid nitrogen, approx. 880 x 0.5 ml semen straws or 90 macrotubes, static holding time: 13 days, neck opening: 70 mm, total height: 468 mm, weight (full): 9.1 kg, IATA-compliant

REF. : 16504/2001

**SC 4/3**, 1 canister, 278 x 46 mm, capacity: 4.3 l liquid nitrogen, approx. 420 x 0.5 ml semen straws or 30 macrotubes, static holding time: 21 days, neck opening: 51 mm, total height: 492 mm, weight (full): 9.5 kg, IATA-compliant

REF. : 16504/3001

Protective shipping container for Vapor Shipper, made of plastic, IATA-compliant

REF. : 16504/3010

CryoCube™ Dry Shipper

Cryogenic shipping option for biological samples at -150°C in any orientation without sacrificing temperature. Static holding time: 5 days, LN2 capacity: 2 l, 1 canister 127 x 35 mm, capacity: 182 x 0.25/88 x 0.5 ml straws, neck opening: 35 mm, overall dimensions: 305 x 305 x 305 mm (D x H x W)

REF. : 16505/0100
Insemination and Diagnostics

Rigid AI pipettes for dogs

Rigid plastic pipettes with piece of tubing and Luer adapter

- Length: 22 cm, 10/Package
  REF. : 17500/0010
- Length: 22 cm, 1/Package
  REF. : 17500/0020
- Length: 44 cm, 10/Package
  REF. : 17500/0045
- Length: 44 cm, 1/Package
  REF. : 17500/0040

Semen transfer adapter for syringe,
length 13 cm, 10/bag
  REF. : 17229/0020
MAVIC catheters for canine vaginal insemination

- Designed to mimic the natural breeding process
- Available in three sizes to accommodate a variety of breeds
- Stainless steel spine with protective sheath to enhance rigidity
- Luer lock injection port with reflux check valve
- Inflatable balloon prevents unwanted back flow of semen
- Balloon equipped with monitoring pilot balloon and Luer lock check valve

(1) MAVIC AI Large, CH 36
for large to giant sized dogs, length: 400 mm
sterilized, single use, with 10 ml syringe, 1/package
REF. : 17500/0055

(2) MAVIC AI Medium, CH 18
for small to medium sized dogs, length: 250 mm
sterilized, single use, with 5 ml syringe, 1/package
REF. : 17500/0050

(3) MAVIC AI Small, CH 18
for toy and small sized dogs, length: 120 mm
sterilized, single use, with 5 ml syringe, 1/package
REF. : 17500/0052

Lubricant ReproJelly

- Non-spermicidal lubricant, water soluble
- Iso-osmotic and sperm friendly, supports the sperm cell viability
- Batches are tested for sperm compatibility
- Ideal viscosity to better coat gloves, AI equipment and instruments

Tube with 100 ml, resealable
REF. : 11907/0100

3 l canister, without dispenser
REF. : 11907/3000

Dispenser for canister
REF. : 11907/3100
INSEMINATION

Vaginal speculum

- Halogen light for consistent long lasting illumination
- Fiber optics provide cool distal ring of light – no reflections, no obstructions
- Autoclavable stainless steel for convenience and durability
- Hinged window with neoprene seal to avoid fogging during insufflation
- Graduated tube with removable tip
- Available in 4 lengths to accommodate all canine breeds

Vaginal speculum

<table>
<thead>
<tr>
<th>Size</th>
<th>Ref.</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 x 100 mm</td>
<td>17506/0110</td>
</tr>
<tr>
<td>11 x 250 mm</td>
<td>17506/0111</td>
</tr>
<tr>
<td>15 x 250 mm</td>
<td>17506/0112</td>
</tr>
<tr>
<td>19 x 350 mm</td>
<td>17506/0113</td>
</tr>
</tbody>
</table>

To be used with

Manual insufflation pump  
Ref. : 17505/0010

Lithium ion rechargeable power handle

- 110 min on-time between charging
- With low battery indicator light
- No need to discharge between charging cycles
- Lightweight, durable and ergonomically designed

Ref. : 17506/0100

Canine culture swab

Canine culture swab with introduction pipette (10/bag), length: approx. 320 mm, disposable, individually packaged, sterilized

Canine culture swab  Ref. : 17500/0350

Syringes

Disposable syringe. Luer mount, sterilized, all plastic, non-spermicidal, 100/package

<table>
<thead>
<tr>
<th>Size</th>
<th>Ref.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 ml</td>
<td>19801/0002</td>
</tr>
<tr>
<td>5 ml</td>
<td>19801/0005</td>
</tr>
<tr>
<td>10 ml</td>
<td>19801/0010</td>
</tr>
<tr>
<td>20 ml</td>
<td>19801/0020</td>
</tr>
</tbody>
</table>

Shorr staining solution

Shorr staining solution for examining presence of cornification in epithelial cells of the female dog

500 ml  Ref. : 15405/0080
**MiniReader**

Determining the optimal time for insemination is one of the most critical steps for successful breeding.

The MiniReader is an affordable, accurate and reliable device to read and provide the results of Minitube’s ELISA (enzyme-linked immunosorbent assay) test within 35 minutes. It is used with the ELISA test kit.

**Application**
- Detection of ovulation
- Determination of the ideal time for artificial insemination or natural breeding

**Your benefits**
- Small sample is needed (0.02 ml of blood serum)
- Fast and accurate results in just over half an hour for immediate assessment – any day of the week
- Accurate and consistent readings as absolute progesterone concentration is shown in ng/ml (not only relative readings of ‘high’ or ‘low’)
- Small device fits anywhere
- Size of test kit adapted to the needs of veterinarians
- Easy handling and maintenance

**MiniReader**

REF. : 21900/0000

**Accessories**

**Test kit for measuring Progesterone in canine serum**
- Standard 1, 2, 3
- Reagents
- Washing solution
- Coated wells
  for 10 to 25 samples

REF. : 21900/1110

**Warming unit for sample incubation during the ELISA reaction**
Optimal conditions for ELISA reaction occur at 37°C and protected from light. The well holder is transferred directly to the MiniReader after the ELISA reaction is finished.

**Warming unit**

REF. : 21900/0100

**Digital pipette, 20 - 200 µl**

REF. : 12427/3120

**Pipette tips, 0.5 - 250 µl, 1000/bag**

REF. : 12427/0255
Minitube TCI FlexiLock Endoscopes

**Product features**

- Unique FlexiLock coupling system combines HD camera and LED light into one streamlined hand piece, providing ergonomic and lightweight operation
- Clearer image, due to significantly more optical fibers than most fiber-optic endoscopes
- Rigid design available with dual angled side ports
- Available in three different sizes to easily catheterize small to large canine breeds

Minitube TCI FlexiLock Endoscope

1. length 15 cm, working channel CH5  
   **REF. : 17505/0201**
2. length 35 cm, working channel CH8  
   **REF. : 17505/0203**
3. length 50 cm, working channel CH8  
   **REF. : 17505/0205**

4. FlexiLock hand piece, full HD camera and integrated LED illumination, for Minitube TCI FlexiLock Endoscopes, requires FlexiVision® HD Camera Control Unit  
   **REF. : 17505/0215**

**Traditional TCI Endoscopes**

**Product features**

- Angular optical eye-piece, autoclavable
- Dual right-angled side ports
- Easy access to the cervix and uterus in dogs of all sizes, also toy breeds
- Working channel (CH 5) enables insertion of instruments under direct visualization for insemination, biopsy and flushing

5. TCI Endoscope Minitube, length 42.5 cm, removable instrument bridge  
   **REF. : 17505/0101**
6. TCI Endoscope Storz, length 43 cm, integrated bilateral fibre glass cord  
   **REF. : 23700/1510**
7. Camera head full HD Zoom, focal length 14.25-28 mm, for traditional TCI Endoscopes, requires FlexiVision® HD Camera Control Unit  
   **REF. : 17505/0210**
8. FlexiLux LED light source, used with FlexiVision® HD Camera Control Unit and camera head, for traditional TCI Endoscopes  
   **REF. : 17505/0225**

Use only by trained veterinarians!

**Accessories for all endoscopes**

9. FlexiVision® HD Camera Control Unit (CCU), required for FlexiLock hand piece and FlexiVision® Full HD camera, with digital zoom, USB for full HD photo capturing, to be connected to a monitor  
   **REF. : 17505/0220**
10. High-resolution color monitor  
    **REF. : 18000/0191**
Transcervical catheters

- Clear markings every centimetre with additional indicators every 5 cm
- Supple material reinforced by a removable stylet for easy insertion
- Adapter for syringe included
- Single packed

<table>
<thead>
<tr>
<th>TC cannulas with single port (70 cm)</th>
<th>TC cannulas with dual port (70 cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye is 0.5 cm from tip to prevent blockage</td>
<td>Additional eye (approx. 2 cm from tip and rotated 60°)</td>
</tr>
<tr>
<td>CH4  REF.: 17500/0004</td>
<td>CH4  REF.: 17500/0024</td>
</tr>
<tr>
<td>CH5  REF.: 17500/0005</td>
<td>CH5  REF.: 17500/0025</td>
</tr>
<tr>
<td>CH6  REF.: 17500/0006</td>
<td>CH6  REF.: 17500/0026</td>
</tr>
<tr>
<td>CH8  REF.: 17500/0008</td>
<td>CH8  REF.: 17500/0028</td>
</tr>
</tbody>
</table>

TCI shunt system

The Minitube shunt system for transcervical insemination is a dual purpose endoscopic tool. It eliminates vaginal air loss around the endoscope during insufflation by creating an air tight seal. The shunt system also acts as a stabilizing platform for the endoscope during the procedure.

TCI shunt system

for TCI FlexiLock Endoscopes  REF. : 17500/0060
for traditional TCI Endoscopes  REF. : 17500/0065

Shunt catheter, 55 mm  REF. : 17500/0062
Shunt catheter, 105 mm  REF. : 17500/0064
Shunt catheter, 150 mm (for scopes > 35 cm)  REF. : 17500/0067
Shunt catheter, 250 mm (for scopes > 40 cm)  REF. : 17500/0068

Transcervical insemination is painless, non-invasive and typically performed without sedation.
All Minitube seminars blend theoretical knowledge and practical experience and are instructed by well-respected experts in the area of assisted animal reproduction. Seminar participants receive a participant certificate upon completion of the course.

Minitube is committed to accommodating the needs of our customers and can provide education and training at our own facilities, partner facilities or at the customer site. Upon request, Minitube also offers individual seminars.

**Canine Artificial Insemination**

Theoretical and practical topics allow the participants to become familiar with the basic features of canine artificial insemination.

- Basic canine andrology
- Semen collection and evaluation
- Semen chilling and freezing
- Breeding management
- Technique for canine vaginal artificial insemination

**Canine Transcervical Insemination**

The seminar also consists of a theoretical and practical part and is designed especially for veterinarians who want to learn or deepen their knowledge of the technique of Transcervical Insemination. In a personal teaching environment (limited number of participants) the participants work with the latest endoscopic equipment. The lab practical in this course provides the veterinarian with all the necessary experience to perform TCI in practice.

**Theory:**
- Advantages/disadvantages of TCI versus surgical insemination
- Presentation of the required equipment
- Video demonstration of TCI technique
- Overview about breeding management
- The right AI timing with frozen or deficient semen

**Practical:**
- Small group participation
- Assembly and analysis of equipment
- Performing Transcervical Insemination
TRAINING AND EDUCATION

Online seminar

For those of our global customers of whom attending the offered Minitube seminars is not easy to manage logistically, Minitube and TherioConsult can now provide you with a time-saving and effective alternative: An online seminar on “Male Canine Reproductive Physiology and Semen Handling” is now offered with an easy and affordable expert interactive course available for PCs or smartphones.

Minitube’s educational course is designed for breeders and veterinarians to provide updated methods and eye-opening insights with an interactive platform that is easy to use and affordable. The course provides the tools and know-how to improve the management and effectiveness of dog reproduction enterprises including optimized consultation of clients.

Three main chapters are emphasized in the course:

- Male dog physiology and semen collection
- Canine semen evaluation (motility, morphology and special evaluations)
- Canine semen preservation (fresh, chilled and frozen semen)

More information and registration: courses.minitube.com

TIME-SAVING AND EFFECTIVE

Minitube online seminar
“Male Canine Reproductive Physiology and Semen Handling”

Chapters can be completed at your own pace, repeated, re-evaluated or skipped if already mastered. All classes are available online and can be accessed 24/7 via computer, tablet or smartphone. Source material, including PDF’s, images and videos, can be downloaded for future reference.

www.minitube.com
Minitube is an ISO 9001:2015 certified company.