Animal Reproduction Technology
Small Ruminants and Camelids
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, sensorics, 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:

Minitube International AG, Germany
Phone: +49 8709 9229 0
E-mail: minitube@minitube.de

Minitube USA
Phone: 800.646.4882
E-mail: info@minitube.com

Minitub do Brasil
Phone: +55 51 3222 7876
E-mail: minitub@minitube.com.br

Minitub Ibérica
Phone: +34 977 845 397
E-mail: info@minitub-iberica.com

Minitube Australia
Phone: +61 3 5342 8688
E-mail: info@minitube.com.au

Minitub Chile
Phone: +56 (9)7452036
E-mail: minitub@minitubchile.cl

Mexitube Alemania
Phone: +52 442 246 73 46/47
E-mail: info@mexitube.mx

www.minitube.com
Semen Collection

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
Electro ejaculator probe 1”  REF. : 11900/0021
Semen collection set for electro ejaculator  REF. : 11900/0250
Artificial vagina

**For small ruminants**
- Rigid rubber casing with valve
- Latex inner liner with roll-up ends
- Rubber bands
- Graduated collection vial in tulip shape, 4 ml
- Warming bag

Artificial vagina, 11 cm  **REF. : 11320/0000**

**For cattle and camelids**
AV casing with valve, 30 cm  **REF. : 11021/0033**

### Accessories

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Latex inner liner, smooth, for 11320/0000</td>
<td>11322/0002</td>
</tr>
<tr>
<td>Latex inner liner, smooth, for 11021/0033</td>
<td>11022/0002</td>
</tr>
<tr>
<td>Latex inner liner, rough, for 11021/0033</td>
<td>11022/0005</td>
</tr>
<tr>
<td>(2) Semen collection vial, tulip shape, graduated</td>
<td></td>
</tr>
<tr>
<td>2 ml</td>
<td>11323/0005</td>
</tr>
<tr>
<td>4 ml</td>
<td>11323/0004</td>
</tr>
<tr>
<td>8 ml</td>
<td>11023/0016</td>
</tr>
<tr>
<td>10 ml</td>
<td>11613/0010</td>
</tr>
<tr>
<td>Silicone plug for vial 11323/0004</td>
<td>11023/1592</td>
</tr>
<tr>
<td>(3) Semen collection vial for camelids, 8 ml, double walled, for 11021/0033</td>
<td>11023/0017</td>
</tr>
<tr>
<td>Silicone plug for the top of vial 11023/0017</td>
<td>11023/1591</td>
</tr>
<tr>
<td>Silicone plug for the bottom of vial 11023/0017</td>
<td>11023/1593</td>
</tr>
<tr>
<td>(4) Warming bag</td>
<td>11225/0026</td>
</tr>
<tr>
<td>(5) Semen collection glove, sperm safe, available in various sizes</td>
<td>11128/0055</td>
</tr>
</tbody>
</table>

Thermometer, up to +100°C, red filling  **REF. : 11027/0100**
Semen Evaluation

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® camera
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.: 12500/1400

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

Module Acrosome Integrity*  REF.: 12500/1600

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

Module Mitochondrial Activity*  REF.: 12500/1700

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.: 12500/1800

* requires fluorescence microscope
SEMEN EVALUATION

**Phase contrast microscope MBL**

Functional microscope for semen analysis with objectives 10x, 40x, 100x, heating system with temperature control unit HT 50 with digital temperature display for individual temperature adjustment

**Binocular**  
**Ref.**: 12010/2000

**Binocular, with ocular color camera and monitor**  
**Ref.**: 12010/2100

**Semen dyes**

**Spermac**® semen dye for morphological evaluation,  
4 x 50 ml  
**Ref.**: 15405/0000

**Farely stain** for morphological evaluation,  
3 x 250 ml  
**Ref.**: 15405/0026

**Eosin G**, 2% solution for supravital staining,  
50 ml  
**Ref.**: 15405/0025

**Nigrosin**, 4% solution for supravital staining,  
50 ml  
**Ref.**: 15405/0029

*Not recommended for camelid semen*

**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**

**Pipettor 10 – 100 µl**  
**Ref.**: 12425/4810

**Tips for pipettor, 1000/bag**  
**Ref.**: 12425/9409
**SEMEN EVALUATION**

**Photometer SDM6**

**Your benefits**

- With programs for the determination of sperm concentration of ram, buck, bull, boar and stallion semen
- Automatic calculation of extender volume and number of doses
- Display of semen concentration in $10^9$ sperm cells/ml
- Optional: integrated printer for printout of ejaculate production data
- Serial and parallel interfaces for data transfer
- Large touch screen, easy to use

**Photometer SDM6, with integrated printer** REF. : 12300/0006

**Photometer SDM6, without printer** REF. : 12300/0008

**Accessories**

<table>
<thead>
<tr>
<th>Description</th>
<th>REF.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper for printer</td>
<td>12300/0311</td>
</tr>
<tr>
<td>Macro cuvette, 4 ml, 100/package</td>
<td>12301/000</td>
</tr>
</tbody>
</table>

**Photometer SDM 1**

The SDM 1 is a **compact, highly accurate photometer** developed for measuring sperm cell concentrations. It can be calibrated for small ruminant species, bovine, canine, equine, and porcine. Cleaning is simple, maintenance is minimal. The semen concentration is displayed in million sperm cells/ml.

- Calibration for ram or buck semen
- 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

**Photometer SDM 1 for buck semen** REF. : 12300/0104

**Photometer SDM 1 for ram semen** REF. : 12300/0106

**Accessories**

<table>
<thead>
<tr>
<th>Description</th>
<th>REF.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microcuvette for SDM 1, 100/box</td>
<td>12300/1111</td>
</tr>
<tr>
<td>Multispecies Software</td>
<td>12300/0130</td>
</tr>
</tbody>
</table>

www.minitube.com
# Semen Extenders

## AndroMed®
- Egg yolk free high performance medium for frozen and liquid semen
- Perfect biosecurity: no ingredients of animal origin
- No risk of microbiological contamination
- Reduced labour effort due to simple and fast preparation
- Constant, optimal freezing results and high fertility rates with every dilution ratio and for most bulls
- Increased efficiency of microscopic analysis: extremely clear cell images

AndroMed® 200 ml, for a total of 1000 ml of extender, with antibiotic formula according to EC requirements

AndroMed® CSS, One-step
200ml, for a total of 1000 ml of extender

## Steridyl®
- TRIS based semen freezing extender with sterile egg yolk included
- Easy to prepare, time saving

Steridyl® 500 ml concentrate, for a total of 1250 ml of extender, sterilized, with antibiotic formula according to EC requirements

Steridyl® CSS, One-step
500 ml, for a total of 1000 ml of extender

Steridyl® CSS, Two-step, fraction 1
500 ml, for a total of 1000 ml of extender

Steridyl® CSS, Two-step, fraction 2
500 ml, for a total of 1000 ml of extender
**SEMEN EXTENDERS**

**Triladyl®**

Since decades, one of the most successful extenders for bull semen freezing in the world. Used for one-step semen processing at room temperature, it stands for constantly optimal results of your bull population, even when using highly diluted ejaculates.

Triladyl® 250 g, for a total of 1250 g of extender, with antibiotic formula according to EC requirements  
**REF. : 13500/0250**

Triladyl® CSS, 200 g, for a total of 1000 g of extender, without antibiotics  
**REF. : 13500/1200**

**Biladyl®**

The Two-step extender based on the proven Triladyl® formula, according to the CSS-requirements (Certified Semen Services). Consisting of fractions A, B and antibiotic supplement.

Biladyl®, fraction A, 49 g, for a total of 500 g extender  
**REF. : 13500/0004**

Biladyl®, fraction B, 250 g, for a total of 750 g extender  
**REF. : 13500/0006**

**Bovidyl®**

Medium for preservation of liquid semen from ruminants, 270 ml. Needs addition of 30 ml egg yolk. With antibiotic formula according to EC requirements. For a total of 300 ml of extender.  
**REF. : 13501/0150**

**OviPlus**

Fresh semen extender concentrate, 24 ml, suitable for small ruminant semen. Requires addition of fresh egg yolk. For a total of 200 ml of extender.  
**REF. : 13610/0025**

**Antibiotic supplement**

Antibiotic formula in powder according to CSS protocol

For One-step extender: 550 mg Gentamicin, 110 mg Tylosin, 330 mg Lincomycin, 660 mg Spectinomycin  
**REF. : 13504/9000**

For Two-step extender: 300 mg Gentamicin, 60 mg Tylosin, 180 mg Lincomycin, 360 mg Spectinomycin  
**REF. : 13500/0005**

**HIGHEST PRODUCT SECURITY**

- GMP-certified quality control standards at each production stage
- guaranteed use of semen friendly components and materials

www.minitube.com
## Straw Processing and Freezing

**Semen straws 0.25/0.5ml**

<table>
<thead>
<tr>
<th>Type</th>
<th>Volume</th>
<th>Color</th>
<th>Package Size</th>
<th>Ref.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MiniStraw</td>
<td>0.25 ml</td>
<td>clear</td>
<td>2000/bag</td>
<td>13407/0010</td>
</tr>
<tr>
<td>MediumStraw</td>
<td>0.5 ml</td>
<td>clear</td>
<td>2500/bag</td>
<td>13408/0010</td>
</tr>
<tr>
<td>EcoStraw</td>
<td>0.25 ml</td>
<td>clear</td>
<td>2000/bag</td>
<td>13407/3010</td>
</tr>
<tr>
<td>EcoStraw</td>
<td>0.5 ml</td>
<td>clear</td>
<td>2500/bag</td>
<td>13408/3010</td>
</tr>
</tbody>
</table>

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.
PRINTERS FOR SEMEN STRAWS

AHDR/HDR Printer

Clichés printer for straws
For 0.5 or 0.25 ml straws and Minitubes, with counter.
Capacity approx. 5000/3000 straws/hour (AHDR/HDR).

AHDR, automatic printer  REF. : 13142/1000
HDR, manual printer  REF. : 13140/0000

Set of alpha-numerical characters
for 0.5 ml straws and Minitubes  REF. : 13052/0000
for 0.25 ml straws  REF. : 13052/0010
Printing ink ER, 40 ml, black  REF. : 13056/0033
Thinner for ER printing ink, 1000 ml  REF. : 13056/9000
Double stick tape  REF. : 13050/0010

EasyCoder

Thermo transfer printer for straws with automatic straw feeder

• Unmatched neat and clear printing on 0.5 and 0.25 ml straws
• Immediately non-abrasive print
• Prints up to 3 lines per straw, even with barcodes, logos and specific characters
• Control via PC by a clear and user-friendly Minitube software
• Clean and odourless working without ink and solvents
• Very simple handling, only little maintenance required

EasyCoder  REF. : 13038/0000
Color band, black, roll with 200 m  REF. : 13038/0010

MultiCoder

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
STRAW PROCESSING

SFS 133

Semiautomatic filling and sealing machine
for 0.25 ml straws  REF. : 13133/0135
for 0.5 ml straws  REF. : 13133/0133

Low density vacuum pump, 30 – 60 Hg, with manometer and adjustable valve, 230 V/50 Hz  REF. : 13133/0267

Loading device, for SFS 133 racks
0.25 ml  REF. : 13133/0025
0.5 ml  REF. : 13133/0005

Filling head with 6 nozzles  REF. : 13133/1000
Suction head with 6 nozzles  REF. : 13133/2000
Silicone tubing for SFS transparent, 3 x 1 mm  REF. : 13133/3550

Washer for all filling and suction nozzles, 2000/bag  REF. : 13021/3002

Metal sealing ball for 0.5 ml straw  REF. : 13400/9900
Metal sealing ball for 0.25 ml straw  REF. : 13400/9970

Colored glass sealing balls available

MPP Uno

Automatic filling and sealing machine for 0.25 and 0.5 ml straws with ultrasound sealer
Capacity approx. 4000 straws/hour.
Power supply: 110 V/60 Hz or 230 V/50 Hz.

MPP Uno  REF. : 13017/0000

Your benefits
• 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
• Optimal control by the user: filling process is performed right in front of the user

Accessories

<table>
<thead>
<tr>
<th>Item</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Straw hopper</td>
<td>13018/0006</td>
</tr>
<tr>
<td>Filling nozzle 0.25 ml</td>
<td>13017/0012</td>
</tr>
<tr>
<td>Suction nozzle 0.25 ml</td>
<td>13017/0022</td>
</tr>
<tr>
<td>Filling nozzle 0.5 ml</td>
<td>13017/0017</td>
</tr>
<tr>
<td>Suction nozzle 0.5 ml</td>
<td>13017/0027</td>
</tr>
<tr>
<td>Washer, 2000/bag</td>
<td>13021/3002</td>
</tr>
<tr>
<td>Filling tubing, 100/bag</td>
<td>13021/3800</td>
</tr>
</tbody>
</table>
**SEMEN FREEZING**

**IceCube 14S - Automatic freezer**

Computer controlled freezer, with comfortable 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
- 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  
**REF. : 16821/3000**

with 12” touch screen monitor  
Ref to be connected to PC or laptop  
**REF. : 16821/2000**

without monitor to be connected to PC or laptop  
**REF. : 16821/1000**

**Freezing units**

**Product features**

- Floating rack for straws included
- The distance between straws and liquid nitrogen level can be adjusted with floating rack
- Fits 0.5 ml and 0.25 ml straws
- With high quality styrofoam chest and stainless steel inner box with working tray

For 20 straws  
**REF. : 15043/0636**

For 90 straws  
**REF. : 15043/0736**

**Accessories**

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

Additional racks:
- for freezing unit for 20 straws  
**REF. : 5015043/0600**
- for freezing unit for 90 straws  
**REF. : 5015043/0900**
Insemination and Pregnancy Detection

Insemination kit for small ruminants

Rugged plastic case contains:

- 1 electronic thawing unit MT 30/54 (see page 18)
- 50 Universal sheaths for all types of straws, short length for small ruminants
- 1 QuickLock insemination gun, short length for small ruminants
- 1 ReproJelly semen friendly lubricant, 100 ml
- 1 Vaginal speculum for small ruminants, with 50 exchangeable transparent plastic tubes
- 1 MiniCutter
- 1 thermometer
- 1 pair of tweezers
- 1 canister clamp

Insemination kit for small ruminants  REF. : 17350/0100

Components also available individually!
Insemination pipettes for camelids

Long pipette with very flexible tube for deep intrauterine insemination. Smooth round tip for gentle introduction. Flexible shaft facilitates handling. 1/package, sterilized

<table>
<thead>
<tr>
<th>Length</th>
<th>REF.</th>
</tr>
</thead>
<tbody>
<tr>
<td>65 cm</td>
<td>17209/1265</td>
</tr>
<tr>
<td>75 cm</td>
<td>17209/1275</td>
</tr>
</tbody>
</table>

Flexible stylet used with insemination pipette and 0.5 ml straws

<table>
<thead>
<tr>
<th>for 65 cm pipettes</th>
<th>REF.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>17209/1065</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>for 75 cm pipettes</th>
<th>REF.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>17209/1075</td>
</tr>
</tbody>
</table>

Insemination pipette for small ruminants

Insemination pipette with excentrical tip for intracervical AI under visual control (speculum), 50/bag.

**Insemination pipette with excentrical tip**, can be used with 0.25 ml and 0.5 ml straws, Minitubes and syringe with adapter

REF. : 17300/0000

**Inseminator for small ruminants**, for 0.25/0.5 ml straws and Minitubes, to be used with pipettes with excentrical tip

REF. : 17320/0000

**Disposable syringe**, 5 ml, Luer mount, sterilized, all plastic, non spermicidal, 100/package

REF. : 19801/0005

**Adapter for Liquid Semen Pipette**, with tubing

REF. : 17500/1000
INSEMINATION

QuickLock and sheaths

QuickLock insemination gun for small ruminants, to be used with Universal sheaths. Suitable for all kinds of straws (0.25 ml, 0.5 ml and Minitubes). For intravaginal AI without speculum. Very handy lock system for sheaths. Secure emptying of straws without backflow.

REF. : 17350/0000

Universal AI Sheath for QuickLock gun for sheep and goat. Round smooth tip, very easy to use. 50/package.

REF. : 17350/0010

Vaginal specula

(1) Vaginal speculum, with battery handle with incorporated lamp, for small ruminants and camelids, total length 240 x 17.3 mm diameter

REF. : 17373/0000

(2) Exchangeable transparent plastic tube for speculum 17373/0000, smooth front edge, disposable, length 19 cm, diameter 17.3 mm, 50/package

REF. : 17373/0001

(3) Vaginal speculum, duckbill type, total length 200 mm, stainless steel

REF. : 17370/3772

(4) Disposable speculum for camels, made of cardboard, inside with reflecting aluminium coating, smooth front edge for gentle introduction, inner diameter: 3 cm, length: approx. 43 cm

REF. : 17210/0000

(5) LED-light, battery operated (up to 250 h), with clip for fixing length: 96 mm

REF. : 17210/0010

Cytology Brush

Disposable set for collecting endometrial cells for cytology.

Cytology Brush for camels, single packed, sterile, single use, delivered with hygienic cover

REF. : 17075/0010
**INSEMINATION**

---

**Laparoscopic AI equipment**

Robertson pipette

*For laparoscopic insemination*, to be used with Lap Al gun or syringe, non sterile, 10/package

REF. : 23700/2200

*For donor ewes*, FSH stimulated and thick uterine walls

REF. : 23700/2201

(1) **Lap Al Gun**, for Robertson Pipettes 0.25 ml straws

REF. : 23700/2205

(2) **Stylet** for removal of emptied 0.25 ml straw out of Robertson Pipette

REF. : 23700/2206

(3) **Inner catheter** for Lap Al Gun for the insemination of bulk semen

REF. : 23700/2207

---

**Laparoscope set for artificial insemination of small ruminants**

**Laparoscope set**

REF. : 23700/1010

Contains the following components:

**Cold-light fountain** with anti-fog pump, 400 A cable, 230 VAC, 50/60 Hz

REF. : 23700/1512

2 **Trocars**, 7 mm with blunt tip, consisting of spike and sheath, with multifunction valve. Trocar also separately available

REF. : 23700/1013

**Hopkins forward oblique telescope 30°**, enlarged view, Ø 6.5 mm, length 35 cm, autoclavable

REF. : 23700/1400

**Fibre optic light cable**, Ø 3.5 mm, length 300 cm

REF. : 23700/1514

Separately available:

**CO₂ insufflator**

REF. : 23700/1450

**Light source** for endoscopes, portable, including charger and spare battery

REF. : 23700/1517

---

www.minitube.com
INSEMINATION

Cradle for laparoscopic Al in sheep

Facilitates secure fixation of the sheep during the whole procedure and allows tipping over in oblique position right before Al. Foldability and light weight allow easy transport and storage. Dimensions (WxHxD): 1345 x 680 x 560 (Folded: 550 x 310 x 270)

Cradle for laparoscopic Al  
REF. : 23700/3000

Thawing Unit MT 30/54

- Electronic temperature control
- Accuracy: ± 0.2°C
- Power supply: 12 V DC (car battery)

35°C  
REF. : 17044/0035
37°C  
REF. : 17044/0037
38°C  
REF. : 17044/0038
50°C  
REF. : 17044/0050

Converter for thawing device 12V/220V  
REF. : 17165/1395
Thermometer for thawing device  
REF. : 17049/0000

PBS Blue

Thaw medium for pellets, marker solution for straws, 20 ml flask  
REF. : 21500/0001

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
PREGNANCY DETECTION

Pregnancy tester

Instrument for diagnosis of pregnancy in small ruminants after 65 days by means of ultrasonic waves. Operated with rechargeable or normal battery. Very handy, robust and easy to operate.

Good freedom of movement due to a probe connected with a spiral cable. Complete with carry case, test body, wrist band, contact gel bottle and standard battery.

Pregnancy tester  REF. : 23350/2838
Charger for 100-240 V with rechargeable battery  REF. : 23350/2840

Ultrasound scanner for small ruminants

Portable ultrasound scanner for transabdominal pregnancy detection in sheep and goats. Very robust, battery operated, easy to clean.

Stable carrying case, electronic 3.5 MHz convex probe (70° forward), freeze-function, carrying strap, two rechargeable batteries, battery charger, USB cable to transmit pictures.

Ultrasound scanner with probe  REF. : 23500/1000
Spare battery set (2 pcs.)  REF.:5023500/1010

Ultrasound device for camelids

Portable ultrasound scanner for pregnancy detection. Suited for transrectal pregnancy check in camelids. Very robust, battery operated, easy to clean.

With rechargeable battery, power supply carry strap, ReproJelly and heavy duty case. 100-240 V

Ultrasound device  REF. : 23500/1005
Linear Probe 6.5 MHz for rectal pregnancy detection  REF. : 23500/1106

Probes exchangeable. Convex probe available.
Flush Media

Flush Media are available in plastic bottles and infusion bags. A scale on the bottle/bag simplifies dosage. Easy suspension with hook due to fold-out lug at bottom of bottle and round opening in the bag. Infusion bags with 3-way port configuration and sealed ports for hygienic fluid removal.

**BoviFlush**

Medium for bovine and ovine embryo recovery

A complete formulation containing buffer solution, BSA or PVA and Gentamicin. No additives required.

- With BSA and antibiotic, 1 l, bag  
  REF. : 19982/6001
- With BSA and antibiotic, 1 l, bottle  
  REF. : 19982/6003
- With PVA and antibiotic, 1 l, bag  
  REF. : 19982/6011

**CamelFlush**

Medium for flushing embryos of camelids

- With BSA and antibiotic, 1 l, bag  
  REF. : 19982/6601
- With BSA and antibiotic, 1 l, bottle  
  REF. : 19982/6701
- With PVA and antibiotic, 1 l, bag  
  REF. : 19982/6611
EMBRYO COLLECTION AND TRANSFER

Holding medium

A multiple application medium for:
• Holding in vivo or in vitro derived embryos at room temperature in atmospheric air
• Washing and rinsing embryos
• Loading embryos for transfer to recipients

BoviHold
Buffered solution containing Pyruvate, BSA and antibiotics
3 bottles of 10ml each

REF.: 19982/6047

Cryopreservation medium

Medium for conventional slow-rate freezing of embryos.
The cryopreservation solution contains a buffered solution with D-glucose, Sodium-pyruvate, BSA and antibiotic. With ethylene glycol for conventional freezing and direct transfer after thawing.

BoviFreeze
3 bottles of 10ml each

REF.: 19982/6052

Embryo collection catheters

For small ruminants

(1) Embryo collection catheter 8 CH, silicone, 3 ml balloon, 2-way, Foley type

REF.: 19009/6008

(2) Y-Tubing

REF.: 19009/6002

Injection catheter

for embryo flushing medium in surgical recovery

REF.: 19810/0960

Babcock forceps for holding the uterine horn in surgical collection and transfer, 28 cm

REF.: 15010/6024

(3) Tomcat catheter, disposable, 50/bag

REF.: 19001/0050

For camelids

(4) Lampeter stainless steel tip catheter with 8 ports, rubber, Luer end, 1/bag, CH 18

REF.: 19006/0017

(5) Disposable Y-junction tubing with clamps,
to be used in combination with any catheter and inline filter. Sterilized, 1/bag. Tubing made of very smooth, flexible material. End for filter connection requires no extra adapter.

Luer end

REF.: 19011/0100

Mandrin for flushing catheter, CH 18/20

REF.: 19007/0018

Also available:
Silicone catheters in different sizes with Foley or Luer end

Syringe with injection catheter
(Ref.: 19810/0960)

EmGuard
(Ref.: 19010/1000)
Refer to page 22

Y-Tubing
(Ref.: 19009/6002)

Flushing catheters
(Ref.: 19009/6008)

www.minitube.com
Filters for embryo collection

Your benefits

- Filter mesh cannot get dry as it remains in contact with fluid
- Secure fixation of the lid during collection and easy to open after collection
- An integrated search dish engraved with a grid makes it easy to search and find embryos
- All-in-one filter and search dish
- Excess fluid is controlled and removed through outlet tubing with attached thumb clamp
- Connection to all types of Y-tubing is possible

EmSafe

The EmSafe is ideal for both large and small embryos. The filter system automatically holds a minimum level of 60 ml flushing fluid in the dish. The angled filter mesh provides an optimal flow-through rate and the air vent in the lid is secured by a filter. The air outlet is also provided with a filter to securely hold embryos in the system.

(1) EmSafe filter  REF. : 19010/6000

EmGuard & MiniFlush

Vertical all-in-one embryo recovery systems with a large filter surface area. The vertical design provides higher flow rates and reduces plugging of the embryo filter. Due to their shallow design, the filters are perfectly suited for use with all microscopes even when the working distance is limited. Embryos are easily found with the aid of the highly visible grid.

With the MiniFlush and EmGuard the entire flushing procedure can be completed without the need to monitor fluid levels as the filter automatically maintains a constant 20 ml volume.

(2) EmGuard filter  REF. : 19010/1000
(3) MiniFlush filter  REF. : 19010/2000

Embryo culture dish

Embryo culture dish, with lid, sterilized, 5 wells, rounded well edges, mouse embryo batch tested
4/bag, 100/box  REF. : 19021/0005
EMBRYO COLLECTION AND TRANSFER

Straws

0.25 ml straw, clear, sterilized, 10/package
- clear [REF.: 19042/0010]
- yellow [REF.: 19042/1010]
- with sealing balls [REF.: 19041/0010]

0.25 ml straw, clear, sterilized, 10/package, with ID rod seal in different colors:
- white [REF.: 19040/0010]
- beige [REF.: 19040/0011]
- light yellow [REF.: 19040/0012]
- light blue [REF.: 19040/0013]
- red [REF.: 19040/0014]
- pink [REF.: 19040/0015]
- grey [REF.: 19040/0016]
- light green [REF.: 19040/0018]
- dark yellow [REF.: 19040/0020]

Also available: 0.25 ml straw, yellow-transparent with beige or light yellow ID-rod

Neopor transport box

Neopor transport box for shipping embryos at 5°C [REF.: 17229/0005]

Transport vial with secure snap cap round bottom, 5 ml [REF.: 19180/5006]
Minitube offers a variety of seminars and training opportunities in small ruminant reproduction techniques. These are also applicable for deer.

The seminars begin with a get-together meeting to discuss each participant’s experience and practical expertise. A comprehensive theory presentation is followed by hands-on lessons during which the trainees repeatedly perform all steps under the supervision of the trainer. Minitube training sessions always offer many useful troubleshooting measures. The participants benefit greatly from a “learning by doing” approach.

**Laparoscopic artificial insemination (3-5 days)**

**Theory:**
- Physiology (heat, ovulation, fertilization . . .)
- Synchronization protocols
- Artificial insemination (semen handling, thawing and analysis, timing and frequency of AI, working with a range of preserved semen presentations)
- Preparation for laparoscopic AI (restraint and sedation of animals; care, maintenance and cleaning of equipment)
- Technique of laparoscopic AI (including hygienic aspects)
- Optimization (animal welfare and care, setup of workplace, manpower, . . .)
- Troubleshooting

**Hands-on lessons:**
- Demonstration of laparoscopic AI
- Trainees perform all steps repeatedly under supervision of trainer

**Embryo flushing and transfer (3-5 days)**

**Theory:**
- Physiology (heat, ovulation, fertilization, early embryonic development)
- Hormone treatments (synchronization, superovulation)
- Insemination (timing, frequency, effects on embryo recovery rates)
- Preparation for ET (including check lists)
- Donor management
- Recipient selection and management
- Restraint and sedation of animals
- Care, maintenance and cleaning of equipment
- Technique of uterine flushing (including hygienic aspects)
- Embryo handling (media, lab equipment, critical steps of work)
- Optimization (animal welfare and care, setup of workplace, manpower)
- Troubleshooting

**Hands-on lessons:**
- Demonstration of laparoscopic ET
- Trainees perform all steps repeatedly under supervision of trainer

**Semen collection, evaluation and freezing (2 days)**

**Theory:**
- Physiology (anatomy, spermatogenic cycle, ejaculate composition)
- Semen collection (instruments and techniques)
- Semen evaluation (criteria and instrument)
- Semen extenders (composition and use)
- Cryopreservation of semen (semen extenders, cryologic damage, freezing protocols, instruments, storage and management of semen)
- Preparation for semen collection, evaluation, processing and freezing (check lists)
- Optimization (animal welfare and care, setup of workplace, manpower)
- Troubleshooting

**Hands-on lessons:**
- Demonstration of all different steps of the process
- Trainees perform all steps repeatedly under supervision of trainer

**Embryology**

**Theory:**
- Physiology (ovulation, fertilization, early embryonic development)
- Embryo handling (media, lab equipment, critical steps of the process)
- Troubleshooting

**Hands-on lessons:**
- Searching and grading of embryos
- Embryo preparation for fresh/chill & thaw transfer
- Embryo splitting
- Embryo freezing
Minitüb is an ISO 9001:2015 certified company.