



# Animal Reproduction Technology

## Small Ruminants and Camelids



# MINITUBE INTERNATIONAL

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.

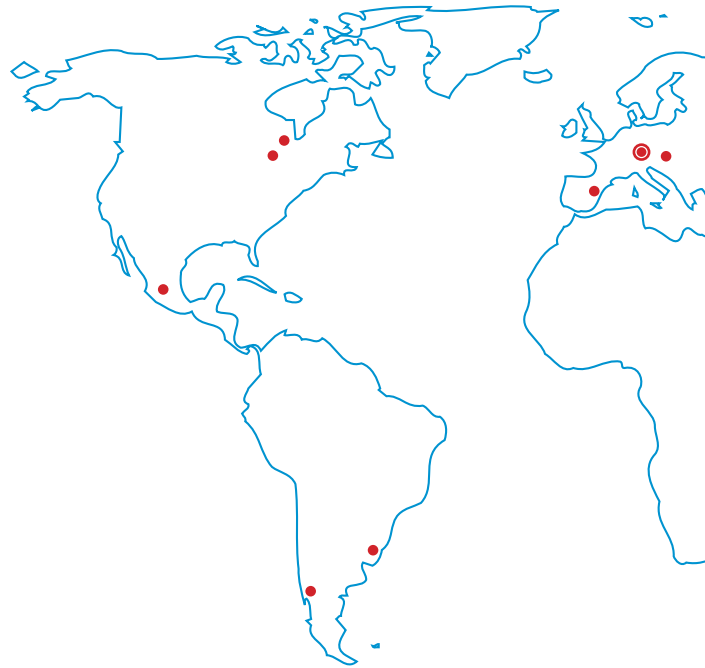
For product development, our teams of veterinarians and engineers cooperate closely. Together, they offer all the knowledge and experience necessary to guarantee the best possible results.

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:**

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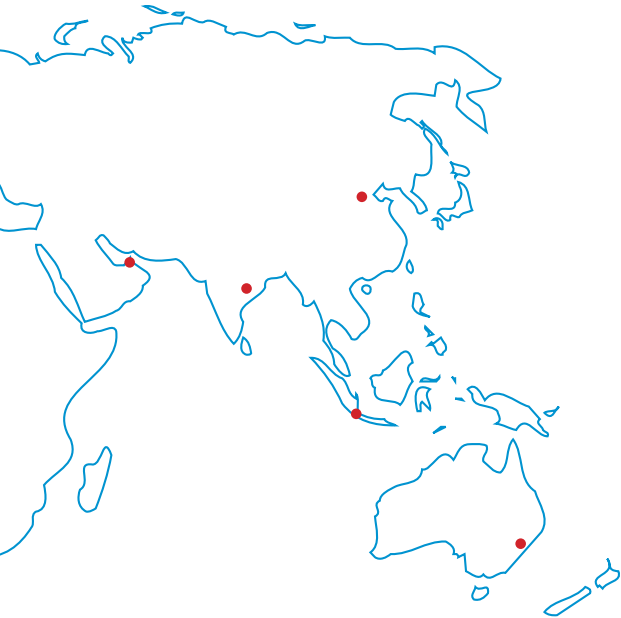
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# Semen Collection

## 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](#)

**Probes in different sizes available, e.g.**

**Electro ejaculator probe 1", Ø 2.6 cm** [REF. : 11900/0021](#)

**Electro ejaculator probe 2", Ø 5.6 cm** [REF. : 11900/0022](#)

**Semen collection set for electro ejaculator** [REF. : 11900/0250](#)



# SEMEN COLLECTION

## Artificial vagina

For small ruminants 

### (1) Artificial vagina, 11 cm

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

REF. : 11320/0000

### (2) Latex inner liner, smooth, for 11320/0000

REF. : 11322/0002

For camelids 

### (3) Artificial vagina casing with valve, 30 cm

REF. : 11021/0033

### (4) Latex inner liner, smooth, 650 mm, for 11021/0033

REF. : 11022/0002

### Latex inner liner, rough, 650 mm, for 11021/0033

REF. : 11022/0003

### (5) Semen collection vial for camelids,

8 ml, double walled, for 11021/0033

REF. : 11023/0017

Silicone plug for the top of vial 11023/0017

REF. : 11023/1591

Silicone plug for the bottom of vial 11023/0017

REF. : 11023/1593

## Accessories for all species

### (6) Semen collection vial, tulip shape, graduated

2 ml REF. : 11323/0005

4 ml REF. : 11323/0004

8 ml REF. : 11023/0016

10 ml REF. : 11613/0010

Silicone plug for vial 11323/0004

REF. : 11023/1592

### (7) Warming bag

REF. : 11225/0026

### (8) 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

### Thermometer for artificial vagina,

Bimetal, non-breakable, up to +100°C REF. : 11027/0000

up to +100°C, graduation 0.1°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® high speed color camera** [REF. : 12500/4400](#)

### Optional hardware configurations

**(1) AndroVision® CASA system**  
portable, with laptop and accessories [REF. : 12500/0010](#)

**(2) AndroVision® CASA system**  
with touchscreen and barcode scanner [REF. : 12500/0001](#)



# ANDROVISION® – MORE THAN CASA

## 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.

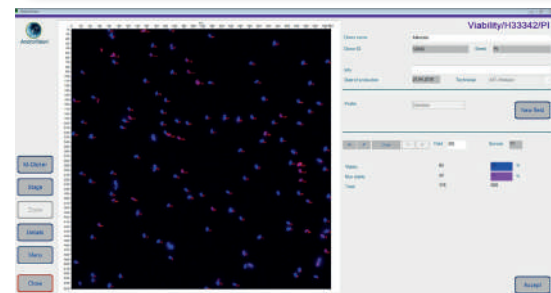
**Module Morphology and Morphometry** [REF. : 12500/1300](#)



### Viability

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

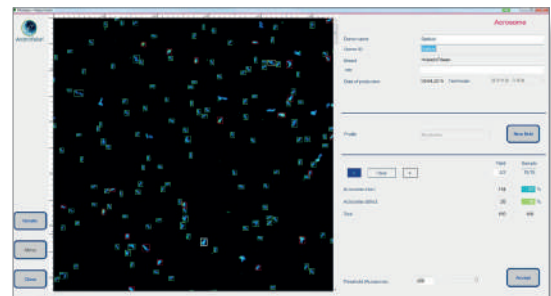
**Module Viability\*** [REF. : 12500/1400](#)



### Acrosome Integrity

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

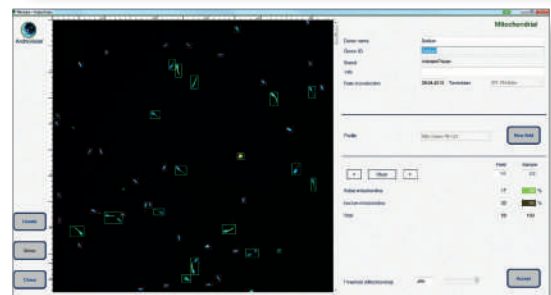
**Module Acrosome Integrity\*** [REF. : 12500/1600](#)



### Mitochondrial Activity

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

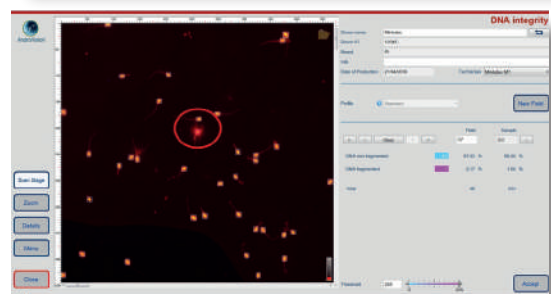
**Module Mitochondrial Activity\*** [REF. : 12500/1700](#)



### 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

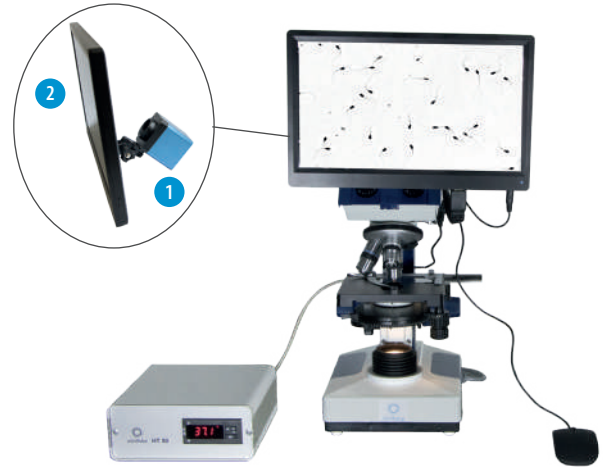
## Phase contrast microscope MBL

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

**Binocular**, objectives 10x, 40x, 100x, temperature control unit HT 50  
 REF. : 12010/2000  
 with ocular color camera (1) and 11.6" monitor (2) REF. : 12010/2100

**Trinocular**, objective 20x  
 with temperature control unit HT 50 REF. : 12010/2103  
 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\*** 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

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

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





# SEMEN EVALUATION

## Photometer SDM 6

### Your benefits

- Determination of sperm concentration and dose calculation 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
- Large touch screen, easy handling
- Serial and parallel interfaces for data transfer
- Optional: integrated printer for printout of ejaculate production data

**Photometer SDM 6, with integrated printer** [REF. : 12300/0006](#)

**Photometer SDM 6, without printer** [REF. : 12300/0008](#)

### Accessories

**Control cuvette set, 4 pieces** [REF. : 12300/0010](#)

**Paper for printer** [REF. : 12300/0311](#)

**Macro cuvette, 4 ml, 100/package** [REF. : 12301/0003](#)

**NaCl solution, 0.9%, 1 l** [REF. : 12301/4667](#)

**Dispenser 0.5-5 ml for NaCl solution** [REF. : 12428/1815](#)

**Bottle for dispenser, 500 ml** [REF. : 12428/1905](#)

**Adjustable single channel pipette, yellow, autoclavable, 10 - 100  $\mu$ l** [REF. : 12425/4810](#)

**Pipette tip, 10 - 100  $\mu$ l, yellow, 1000/bag** [REF. : 12425/9409](#)

**Automatic diluter-dispenser** [REF. : 12421/0504](#)



## 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.

- 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
- Semen concentration is displayed in million sperm cells/m
- Power supply: with included mains adapter 100 - 240 V or batteries

**Photometer SDM 1 for buck semen**  [REF. : 12300/0104](#)

**Photometer SDM 1 for ram semen**  [REF. : 12300/0106](#)

### Accessories

**Microcuvette for SDM 1, 100/box** [REF. : 12300/1111](#)

**Multispecies software**  
for reprogramming to other species [REF. : 12300/0130](#)



# Semen Extenders

## 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 labor effort due to simple and fast preparation
- Constant, optimal freezing results and high fertility rates with every dilution ratio
- 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

[REF. : 13503/0200](#)

**AndroMed® CSS**, One-step

200 ml, for a total of 1000 ml of extender

[REF. : 13503/1200](#)

### Steridyl®

Elaborate, proven buffer formula. Contains sterilized egg yolk - easy to prepare: just add water and save time.

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

[REF. : 13500/0260](#)

**Steridyl® CSS**, One-step

500 ml, for a total of 1000 ml of extender

[REF. : 13500/0280](#)

**Steridyl® CSS**, Two-step, fraction 1

500 ml, for a total of 1000 ml of extender

[REF. : 13500/0290](#)

**Steridyl® CSS**, Two-step, fraction 2

500 ml, for a total of 1000 ml of extender

[REF. : 13500/0295](#)

# SEMEN EXTENDERS

## Triladyl®

Since decades, one of the most successful extenders for semen freezing in the world. Used for one-step semen processing at room temperature, it stands for constantly optimal results, 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®

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. For a total of 300 ml extender. Needs addition of 30 ml egg yolk. With antibiotic formula according to EC requirements.

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





## Straw Processing and Freezing

### 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.**



# PRINTERS FOR SEMEN STRAWS

## 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](#)



### UNIQUE, FLEXIBLE & VERSATILE

**Quick and easy print on a whole range of items:** semen straws, goblets, cassettes, culture dishes, macrotubes, syringes, cryovials and many more

## 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!**

# STRAW PROCESSING

## Semiautomatic system SFS 133

### Product features

- Straws are filled and sealed 6 by 6
- Sealing is done securely and hygienically with metal or glass sealing balls (available in different colors)
- An air bubble of 1 cm is automatically produced in each straw
- Capacity: approx. 2000 straws/hour

### Semiautomatic system SFS 133,

with vacuum bottle, filling and suction head

for 0.5 ml straws [REF. : 13133/0133](#)

for 0.25 ml straws [REF. : 13133/0135](#)

### Low density vacuum pump, 30-60 Hg, with manometer and valve

230 V/50 Hz [REF. : 13133/0267](#)

115 V/50 Hz [REF. : 13133/0268](#)

### Cartridge loading device,

with loading block and 10 cartridges for 36 straws

0.5 ml [REF. : 13133/0005](#)

0.25 ml [REF. : 13133/0025](#)



### Accessories

**Straw hopper**, for 0.25 and 0.5 ml straws [REF. : 13018/0006](#)

**Filling nozzle 0.25 ml** [REF. : 13017/0012](#)

**Filling nozzle 0.5 ml** [REF. : 13017/0017](#)

**Suction nozzle 0.25 ml** [REF. : 13017/0022](#)

**Suction nozzle 0.5 ml** [REF. : 13017/0027](#)

**Washer** for 0.25 ml and 0.5 ml nozzles, 5000/bag [REF. : 13021/3001](#)

**Filling and suction tubing**, 380 mm, sperm friendly material (silicone), bevelled edge, 100/aluminum foil bag [REF. : 13021/3800](#)

**Fixing unit** for filling and suction blocks, stackable, stainless steel [REF. : 13017/0050](#)

### Accessories

**Washer** for all filling and suction nozzles, 5000/bag [REF. : 13021/3001](#)

### Silicone tubing for SFS

transparent, 3 x 1 mm, length 10 m [REF. : 13133/3550](#)

**Filling head with 6 nozzles** [REF. : 13133/1000](#)

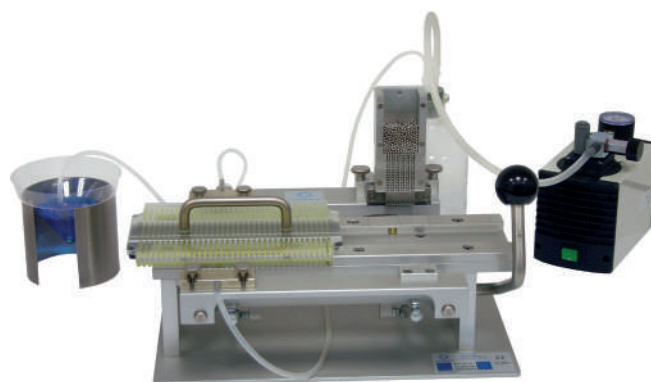
**Suction head with 6 nozzles** [REF. : 13133/2000](#)

### Metal sealing ball

for 0.25 ml straws [REF. : 13400/9970](#)

for 0.5 ml straws [REF. : 13400/9900](#)

**Glass sealing ball** for 0.25 ml straws, different colors [REF. : 13400/9971](#)



## 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](#)

# SEMEN FREEZING

## Automatic freezer IceCube

**Computer controlled freezer**, with comfortable data input and automatic recording of the freezing curve.

- 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

**with 10" tablet** [REF. : 16821/3000](#)

**with 12" touch screen monitor**  
to be connected to PC or laptop [REF. : 16821/2000](#)

**without monitor** to be connected to PC or laptop [REF. : 16821/1000](#)

## 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.

- 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 rack** [REF. : 15043/0738](#)

#### Additional racks:

**(3) For freezing unit for 20 straws** [REF.: 5015043/0600](#)

**(4) For freezing unit for 90 straws** [REF.: 5015043/0900](#)

### Accessories

**Rack for IceCube 14S**, for 36 straws [REF. : 16821/5036](#)

**Handling rack for IceCube 14S** [REF. : 16821/5030](#)

**Loading block for rack 16821/5036** [REF. : 16821/5037](#)

**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](#)



IceCube 14S with tablet

Straw Processing  
and Freezing



# SEMEN FREEZING

## 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](#)







# Insemination and Diagnostics

## Insemination kit for small ruminants

### Rugged plastic case contains:

- 1 electronic thawing unit MT 30/54 (*see page 19*)
- 50 Universal sheaths for all types of straws, short length for small ruminants
- 1 QuickLock insemination gun, short length for small ruminants
- 1 ReprJelly 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

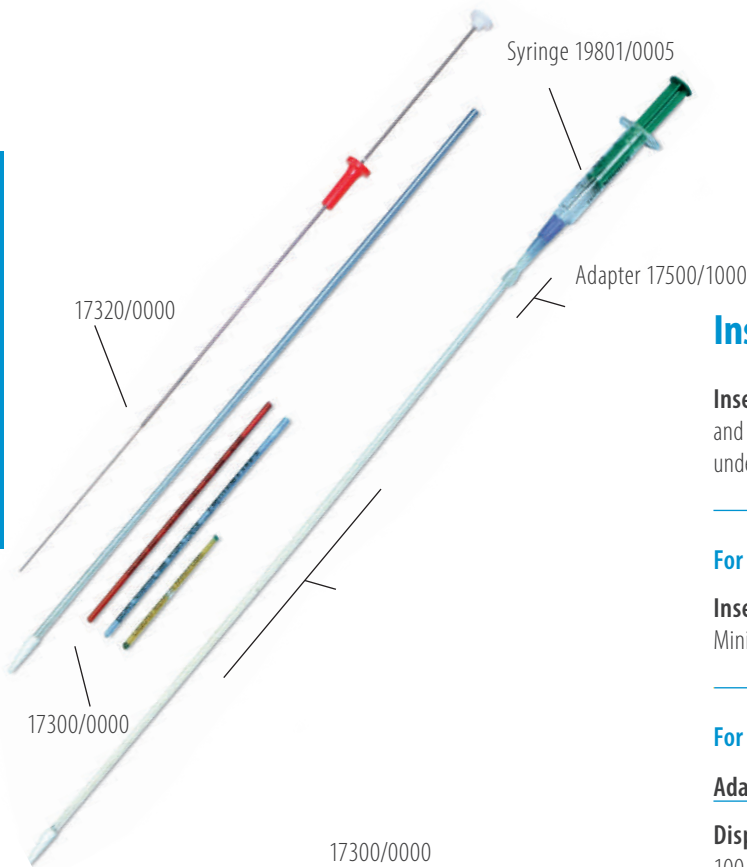
## Insemination pipettes for camels

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

**Length: 65 cm** REF. : [17209/1265](#)

**Length: 75 cm** REF. : [17209/1275](#)

**Flexible stylet** used with insemination pipette and 0.5 ml straws  
**for 65 cm pipettes** REF. : [17209/1065](#)  
**for 75 cm pipettes** REF. : [17209/1075](#)



## Insemination pipette for small ruminants

**Insemination pipette with excentric tip**, can be used with 0.25 ml and 0.5 ml straws, Minitubes and syringe with adapter, for intracervical AI under visual control (speculum), 50/bag

REF. : [17300/0000](#)

**For frozen semen in straws - use pipette with:**

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

REF. : [17320/0000](#)

**For semen in syringe - use pipette with:**

**Adapter for liquid semen pipette**, with tubing REF. : [17500/1000](#)

**Disposable syringe**, Luer mount, sterilized, all plastic, non-spermicidal, 100/package REF. : [19801/0005](#)

## 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](#)



# INSEMINATION

## Vaginal specula

For small ruminants 

(1) **Vaginal speculum**, with battery handle with incorporated lamp, 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

For camels 

(4) **Disposable speculum**, 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

(for use with 17370/3772 or 17210/0000)



Insemination and  
Diagnostics

## Cytology brush for camels

Disposable set for collecting endometrial cells for cytology.

**Cytology brush for camels**, single packed and single use, sterilized, delivered with hygienic cover

REF. : 17075/0010



## Cradle for laparoscopic AI in sheep

Facilitates secure fixation of the sheep during the whole procedure and allows tipping over in oblique position right before AI. **Foldability** and **light weight** allow easy transport and storage.

Dimensions (W x H x D): 1345 x 680 x 560 mm (folded: 550 x 310 x 270 mm)

**Cradle for laparoscopic AI**

REF. : 23700/3000



## PBS Blue

For laparoscopic insemination in sheep: thaw medium for pellets, marker solution for straws, 20 ml flask

REF. : 21500/0001



# INSEMINATION

## Laparoscopic AI equipment for small ruminants

### (1) HOPKINS® optic/laparoscope,

autoclavable, with built-in fiberglass light path

Straight forward Optic 0°, Ø 5 mm, length 29 cm [REF. : 23700/1405](#)

Straight forward Optic 0°, Ø 6.5 mm, length 35 cm [REF. : 23700/1406](#)

Forward oblique optic 30°, Ø 5 mm, length 29 cm [REF. : 23700/1401](#)

Forward oblique optic 30°, Ø 6.5 mm, length 35 cm [REF. : 23700/1400](#)

### Trocars,

consisting of spike and sheath, with multifunction valve

11 mm, green, conical tip, sheath length: 10.5 cm [REF. : 23700/1160](#)

11 mm, green, conical tip, sheath length: 20 cm [REF. : 23700/1161](#)

6 mm, black, conical tip, sheath length: 20 cm [REF. : 23700/1162](#)

6 mm, black, pyramidal tip, sheath length: 10.5 cm [REF. : 23700/1163](#)

11 mm, green-white, pyramidal tip, sheath length: 8.5 cm  
[REF. : 23700/1185](#)

(2) Fibre optic light cable, Ø 3.5 mm, length 300 cm [REF. : 23700/1514](#)

(3) CO<sub>2</sub> insufflator with CO<sub>2</sub>-container and high pressure tubing  
[REF. : 23700/1450](#)

### Illumination

(4) Cold-light fountain with anti-fog pump [REF. : 23700/1512](#)

(5) Light source for endoscopes, portable, incl. charger and spare battery  
[REF. : 23700/1517](#)

## Laparoscopic AI equipment

Robertson pipette, non sterile, 10/package

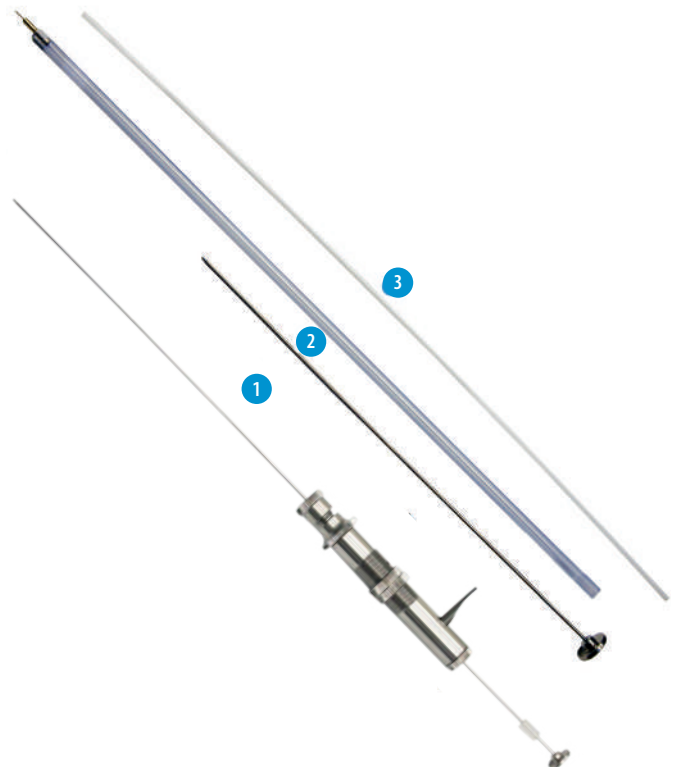
For standard laparoscopic insemination,  
to be used with Lap AI gun or syringe [REF. : 23700/2200](#)

For donor ewes, longer needle  
for stimulated donors with thicker uterine wall [REF. : 23700/2201](#)

(1) Lap AI 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 AI Gun for the insemination of bulk semen  
[REF. : 23700/2207](#)



# INSEMINATION

## Thawing unit MT 30/54

- Electronic temperature control
- Central, built-in thawing chamber with lift
- 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

### Accessories

<b>Transformer</b> for thawing unit 12 V / 220 V	REF. : 17165/1395
<b>Thermometer</b> for thawing unit	REF. : 17049/0000



## MiniCutter

- Precise cut of 0.25 and 0.5 ml straws
- Facilitates straight cut at exactly the right length, which helps to avoid semen loss
- Ergonomic shape
- Easy to keep clean

<b>MiniCutter for straws</b>	REF. : 17062/0010
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## Insemination gloves

(1) <b>Sensitive</b> , green, 5 finger, shoulder length, 100/box	REF. : 17080/0015
(2) <b>Super-sensitive</b> , transparent, 100/box	REF. : 17080/0050
<b>Single packed</b> , sterilized, 50/package	REF. : 17080/0250



## 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

<b>Tube with 100 ml</b> , resealable	REF. : 11907/0100
<b>3 l canister</b> , without dispenser	REF. : 11907/3000
<b>Dispenser for canister</b>	REF. : 11907/3100



# PREGNANCY DETECTION

## Ultrasound device

Portable scanner, very robust, battery operated, easy to clean. Comes with rechargeable battery, power supply carry strap, ReproJelly and heavy duty case.

**(1) Ultrasound device (7" TFT-LCD Monitor)** REF. : 23500/1005

**Transabdominal pregnancy detection in small ruminants** 

**(2) Convex probe 3.5 MHz** REF. : 23500/1105

**Transrectal pregnancy detection in camels** 

**(3) Linear rectal probe 6.5 MHz** REF. : 23500/1106



**Alternative for small ruminants** 

**Ultrasound device with probe included**

Comes with 3.5 MHz convex probe (70° forward), stable carrying case, carrying strap, two rechargeable batteries, battery charger and USB cable to transmit pictures.

**(4) Ultrasound device (5" TFT-Monitor)** REF. : 23500/1000



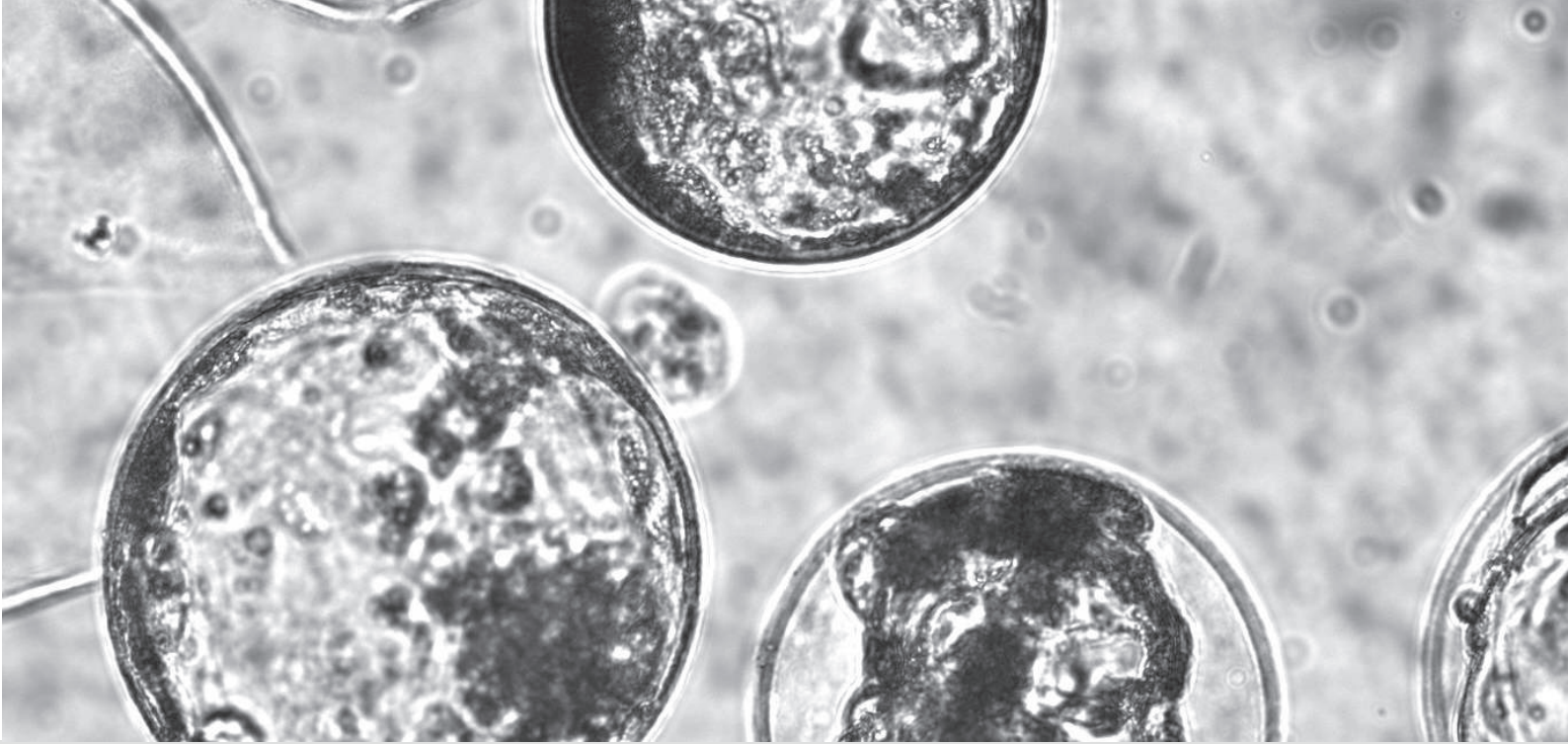
## Pregnancy tester

- 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





# Embryo Transfer

Minitube has been involved in the development of embryo transfer procedures and products since the technology was first introduced. In 1980, Minitube launched a full line of embryo transfer products.

Continuous research and development ensures that the product offering is comprised of the latest, most advanced products for embryo transfer.

## Media for embryo production

- Manufactured under GMP conditions in dedicated clean room
- Gas-tight packaging for longer shelf life
- Convenient package sizes
- Quality control of each batch performed under veterinarian supervision
- Batch certificate available

### MINITUBE ET MEDIA

high performance -  
safe products -  
convenient handling



# EMBRYO COLLECTION

## Recovery media

Flushing 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. All media are ready to use (no additives required), and have a shelf live of 24 months.

Complete formulation containing buffer solution, BSA or PVA and antibiotics.

### For small ruminants

#### BoviFlush - Recovery medium for bovine and ovine embryos

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

### For camelids

#### CamelFlush - Recovery medium for camelid embryos

With BSA, 1 l, bag	REF. : 19982/6601
With BSA, 1 l, bottle	REF. : 19982/6701
With PVA, 1 l, bag	REF. : 19982/6611
With PVA, 1 l, bottle	REF. : 19982/6801



## Holding medium

**BoviHold** is a dilution medium for direct transfer of cryopreserved embryos.

- Holding embryos at room temperature in ambient conditions
- Transporting embryos
- Washing and rinsing embryos
- Loading embryos for transfer to recipient animal

Solution containing glucose, pyruvate, BSA, amino acids, growth factors and antibiotic.

<b>BoviHold</b> , 3 x 10 ml	REF. : 19982/6047
<b>BoviHold</b> , 20 ml	REF. : 19982/6046



## 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.

<b>BoviFreeze</b> , 3 x 10 ml	REF. : 19982/6052
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# EMBRYO COLLECTION

## Embryo collection catheters

For small ruminants 

**(1) Embryo collection catheter 8 CH,**  
silicone, 3 ml balloon, 2-way, Foley type REF. : 19009/6008

**Single connector tubing** REF. : 19009/6001

**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

**(2) Tomcat catheter,** disposable, 50/bag REF. : 19001/0050

For camels 

**Silicone catheters,** 650 mm length (26"), 20-30 ml inflation cuff, high volume recovery ports, Luer activated valve, sterilized, 1/bag

**(3) 2 way, Luer Lock**

CH 12 REF. : 19005/0100

CH 14 REF. : 19005/0101

CH 16 REF. : 19005/0102

CH 18 REF. : 19005/0103

CH 20 REF. : 19005/0104

**(4) 2 way, Foley end**

CH 12 REF. : 19005/0220

CH 16 REF. : 19005/0221

CH 18 REF. : 19005/0222

CH 20 REF. : 19005/0223

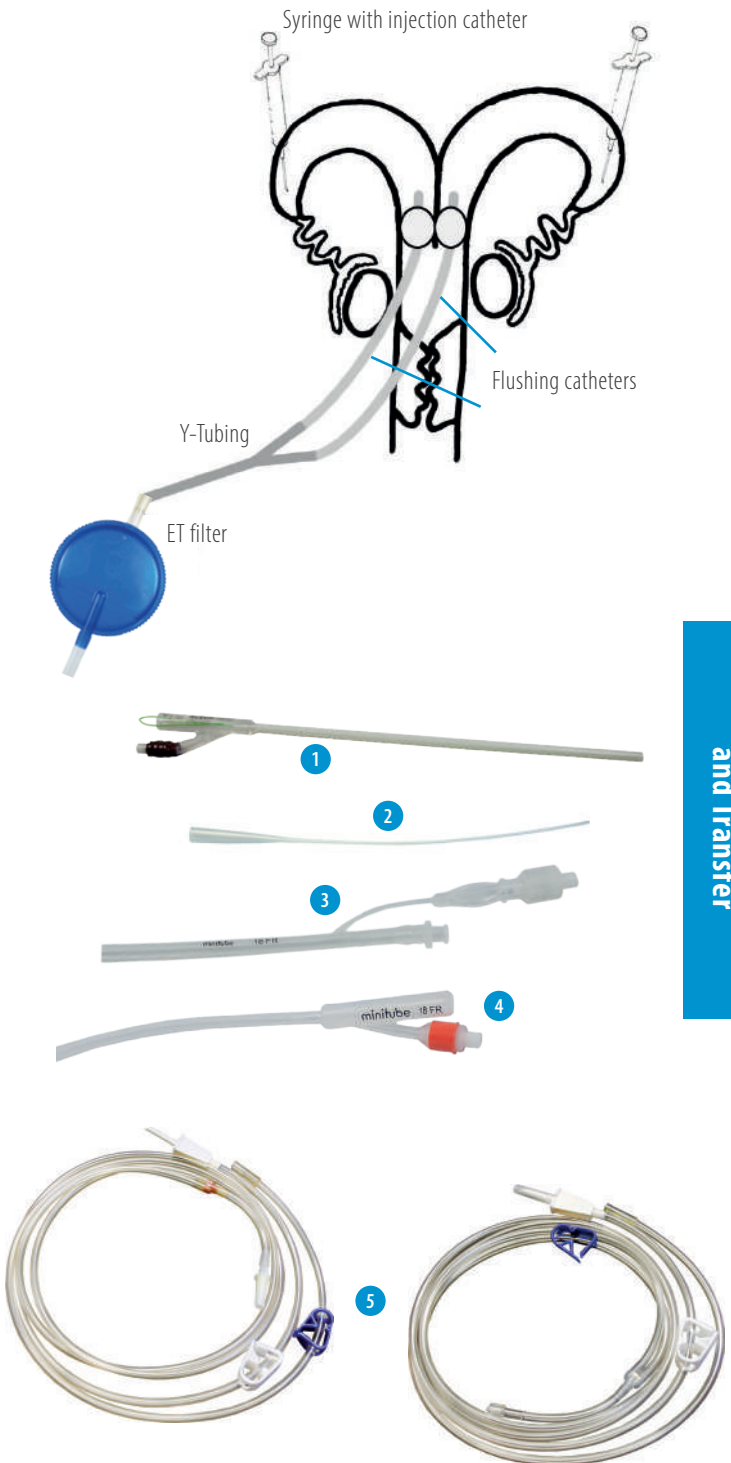
**(5) Disposable Y-junction tubing with clamps**

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

**Foley end** REF. : 19011/0200

**Mandrin for flushing catheter, CH 18/20** REF. : 19007/0018



# EMBRYO COLLECTION

## Filters for embryo collection

### Your benefits

- All-in-one dual purpose filters and search dishes: embryos are recovered directly from the filter dish
- Secure fixation of the lid during collection and easy to open after collection (no screw cap)
- Integrated search dish engraved with a grid makes it easy to search and find embryos (mesh size is ideal for all bovine and equine embryo sizes)
- Filter mesh cannot get dry as it remains in contact with fluid
- Excess fluid is controlled and removed through outlet tubing with attached thumb clamp (entry hole is big enough to ensure the necessary flow speed of the flushing medium)
- Connection to all types of Y-tubing (bovine and equine) is possible
- Absolute tightness
- Sterilized

### 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](#)

### MiniFlush

Vertical all-in-one embryo recovery system with a large filter surface area. The vertical design provides higher flow rates and reduces plugging of the embryo filter. Due to its shallow design, the filter is 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 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) MiniFlush filter** [REF. : 19222/2000](#)

### EASY AND SAFE TO USE

All-in-one dual purpose filters and search dishes that require no attention during flushing procedure



# EMBRYO HANDLING

## Vitrification unit

Set for vitrifying embryos or oocytes in OPS (=open pulled straws) or conventional straws.

### Unit consists of:

- Styrofoam box with stainless steel vitrification bath
- Material for vitrification
- Video instructions for working with OPS
- Manual with detailed description of media preparation

**Vitrification unit** REF. : 19500/2000



## Herrid's Vitrification Kit for Camels

Contains all media to vitrify up to 30 camel embryos:

- Holding medium
- Vitrification medium VS1, VS2 and VS3
- Thawing solution WS1 and WS2

**Herrid's Vitrification Kit** REF. : 19982/6850



## Embryo freezing with the IceCube

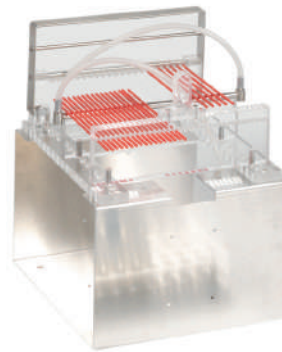
With the Autoseeding Preparation, the IceCube (product details on page 13) can be used for freezing embryos.

**Autoseeding Preparation** for freezing embryos REF. : 16821/5019

**Autoseeding Rack\***, capacity: 35 x 0.5 ml straws REF. : 16821/5020

**Autoseeding Rack\***, capacity: 43 x 0.25 ml straws REF. : 16821/5021

\*Spacer included



## Embryo Handling

**Micropipettor** for handling of embryos, easy and precise pipetting by handling wheel, for all sizes of capillary tubes up to 1 ml

**Model A** REF. : 19022/0000

**Model B** REF. : 19022/0002

**(1) Steripette** for embryo handling, 55 mm, individually packed, sterilized, 50/package, for use with 1 ml insulin syringe

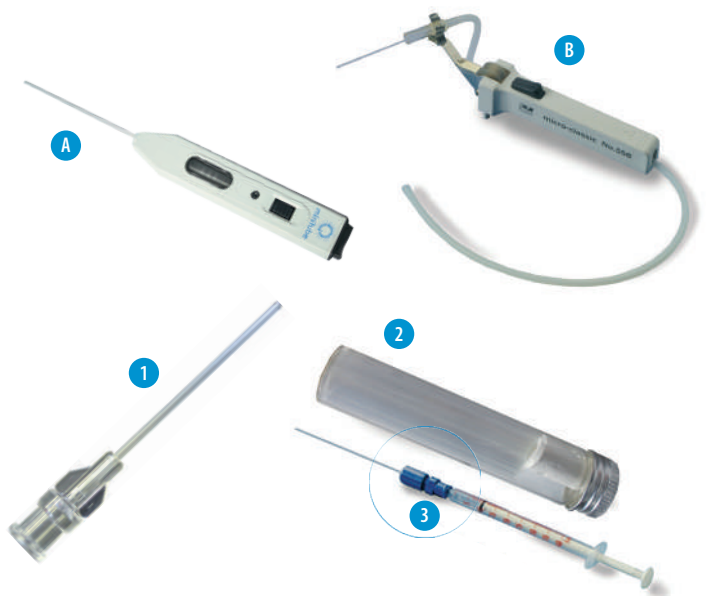
REF. : 19025/0050

**(2) Glass pipette for embryo handling**, silicone treated (240°C), 100/package

REF. : 19026/0100

**(3) Adapter for glass pipette** for connection with 1 ml Luer syringe (Ref.: 19801/0001), sterilized

REF. : 19026/1100



# EMBRYO HANDLING

## Embryo culture dish

**Embryo culture dish**, with lid, sterilized, 5 wells, rounded well edges, MEA performed for every batch, 4/bag, 100/box

REF. : 19021/0005



## Petri dish

**Petri dish**, plastic

diameter 35 mm

REF. : 19020/0035

diameter 94 mm

REF. : 19020/0094

diameter 145 mm

REF. : 19020/0145

**Petri dish**, plastic, with grid, diameter 65 mm

REF. : 19020/2065



## Straws

**0.25 ml straw**, sterilized, 10/package

transparent

REF. : 19042/0010

yellow (direct transfer)

REF. : 19042/1010

transparent with glass sealing ball

REF. : 19041/0010

**0.25 ml straw 133 mm**, transparent, sterilized, 10/package, with ID rod seal

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

## 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

**CryoSealer**

REF. : 13135/0000



# EMBRYO TRANSFER

## 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, single packed, sterilized

REF. : 19180/5006



## Transfit sheaths and stylets

**Transfit Lateral**, sheath with metal tip and side opening, to be used with 0.25 ml straws, sterilized

5/package

REF. : 19240/1005

1/package, with hygienic sheath

REF. : 19240/1006

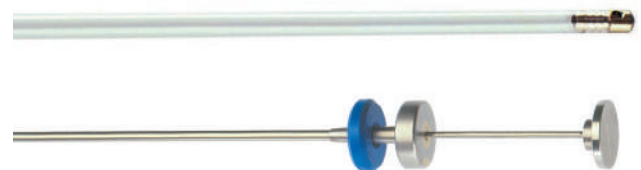
**ET Cannula** to be used with Transfit Lateral sheath

**Deep Chamber** - for uncut straws

REF. : 19240/1000

**Shallow Chamber** - for cut straws

REF. : 19240/1001



## Sanitary sheaths

- Hygienic sheath: thin plastic sheath
- Sanisheath: rigid hygienic sheath with perforable cap

**Hygienic sheath**, roll with 80 units

REF. : 19271/0080

**Sanisheath**, 25/package

REF. : 19270/0025



## Laposcopic equipment

Please refer to page 17 and 18 for laparoscopic equipment for small ruminants.

# TRAINING AND SERVICE

## Training and education

Minitube offers a variety of seminars and training opportunities in small ruminant and camelid reproduction techniques worldwide, e.g.

- Laparoscopic artificial insemination
- Semen collection, evaluation and freezing
- Embryo flushing and transfer

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.

Please contact us to get more information:

[seminars@minitube.de](mailto:seminars@minitube.de)



## Mobile lab service

Minitube Middle East offers unique professional lab service to customers particularly in remote areas. The Mobile Lab is a van equipped with high-quality Minitube equipment to analyze and preserve/freeze animal semen or embryos.

Minitube Middle East offers the service to customers in the United Arab Emirates, Saudi Arabia and Oman, in regions which otherwise have no access to a professional laboratory for semen and embryo preservation.

Please contact us for further information about the service and if you would like to discuss how to construct your own mobile laboratory:

[minitube@minitube.de](mailto:minitube@minitube.de)





Minitüb is an ISO 9001:2015 certified company.