Animal Reproduction Technology
Equine
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
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www.minitube.com
Semen Collection

Hannover artificial vagina

(1) Equine artificial vagina Hannover with valve, inner liner (100 cm), 3 rubber rings, leather handle

REF. : 11220/0145

Accessories

(2) Inner liner for Hannover AV, rubber, with roll-up ends, sterilizable
- Long version, 100 cm
  REF. : 11222/0002
- Short version, 70 cm
  REF. : 11222/0003

(3) Disposable inner liner, width approx. 21 cm, roll with approx. 200 m; „sensitive“: smooth and resistant material
  REF. : 11222/0120

(4) Warming bag for collection glass, protects the semen from low temperature and UV radiation
  REF. : 11225/0026

(5) Rubber band for Hannover AV
  REF. : 11222/0001

Semen collection bottle
- 250 ml, glass
  REF. : 11245/0006

(6) Leather handle for Hannover AV
  REF. : 5011222/0008
SEMEN COLLECTION

Colorado artificial vagina

(1) Equine artificial vagina Colorado, complete with 3 inner rubber liners (tubular, conical, straight), 10 rubber bands, 2 clamps, 25 disposable inner liners, 25 semen bottles, 25 coupling nuts, 25 nylon filters and warming bag

REF. : 11230/0000

Accessories

(2) Disposable inner liner, plastic, width 31 cm, roll with approx. 200 m; "sensitive": smooth and resistant material

REF. : 11232/0030

(3) Disposable inner liner Colorado, 25/package

REF. : 11232/0110

(4) Disposable inner liner Colorado, AV shaped, 25/package

REF. : 11232/0102

(5) Semen collection bottle Colorado, 200 ml, disposable, 100/package

REF. : 11231/0200

Coupling nut for 200 ml semen bottle, 100/package

REF. : 11231/0301

(6) Semen filter Colorado, nylon, fits Colorado collection bottle, 25/package

REF. : 11231/0400

Warming bag

(7) Small, for 200 ml collection bottle

REF. : 11225/0026

(8) Large, blue

REF. : 11231/0185

Rubber inner liner for Colorado AV, tapered end for connection to the bottle

flared front end

REF. : 11231/0102

(9) Straight form

REF. : 11231/0101

round form

REF. : 11231/0201

Rubber inner liner for Colorado AV, tubular, flared ends

REF. : 11231/0103

Missouri artificial vagina

Equine artificial vagina Missouri, double latex liner with valve and leather casing, adapter and collection bottle, length: approx. 50 cm

REF. : 11245/0000

Disposable inner liner „AV-Liner”, for Missouri AV, without filter

25/package

REF. : 11245/0450
Accessories for semen collection

Vaseline, 1000 g  
REF. : 11905/0100

Lubricating jelly Bengen,  
1 l, water soluble  
REF. : 11906/1000

(1) Semen filter, non woven, 150 x 60 mm,  
100/package  
REF. : 11245/3100

Semen filter pouch,  
non-woven, 10/package  
REF. : 11260/1000

(2) Thermometer for artificial vagina,  
Bimetal, non-breakable, 0-100°C  
REF. : 11027/0000

• 0-100°C, graduation 0.1°C  
REF. : 11027/0100

• 0-200°C, graduation 0.1°C  
REF. : 11027/0200

(3) 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

Sterilizer STERIVAR

Low pressure sterilizer for artificial vaginas and accessories, made of stainless steel, double wall with insulation, with pressure safety valve, timer, water drain, protection against overheating and insert grid.

Technical features

• Temperature range: up to +100°C

• Pressure: max. 0.02 bar

• Inside dimensions: Ø approx. 750 x 400 mm

• Power supply: 230 V/50 Hz

• Power consumption: 3500 W

STERIVAR  
REF. : 11050/0015

Roller base for STERIVAR  
REF. : 11051/0000
Hannover phantom for stallions

Hannover phantom, adjustable in height and inclination, covered with reinforced synthetic material coating, well padded, contoured body style, includes bite belt.
Size of the phantom fits for all breeds:
Body: 200 x 60 x 55 cm (W x H x D)
Height of the dummy: 1.30 m to approx. 1.70 m

Hannover phantom, with hydraulic height adjustment of both legs. Hydraulic height adjustment ensures low fatigue operation. Both feet can be lifted or lowered about 40 cm either individually or together by means of a hand pump.

Accessories

Cover for phantom, synthetic material, collection side closed, with belts for attachment

Leather blanket for phantom for stallions, collection side closed, with belts for attachment

Bite belt

Stretch foil for protection of phantom, length 300 m

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 coat gloves, AI equipment and AVs

Tube with 100 ml, resealable

3 l canister, without dispenser

Dispenser for canister
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. : 12500/4200
**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
MICROSCOPY AND VOLUME MEASUREMENT

Phase contrast microscope CX 43

- Phase achromat optics with universal condenser
- Heated microscope stage with temperature control unit HT 200 with additional warming plate and two digital temperature displays
- Temperature adjustable
- Ergonomic design
- 6 V/30 W halogen light

Phase contrast microscope CX 43
with phototube (trinocular), objectives 20x, 40x
REF. : 12005/0041

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

Trinocular
REF. : 12010/2103
Trinocular, with color camera and monitor
REF. : 12010/2101

Semen dyes

Spermac semen dye for morphological evaluation, 4 x 50 ml
REF. : 15405/0000
Farelly 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

Laboratory scale

Precision scale for the determination of the ejaculate volume, weighing range max. 2000 g, resolution 0.1 g, weighing pan 130 x 130 mm

REF. : 14295/0444
Photometer SDM 6

Your benefits

- Determination of sperm concentration and dose calculation of stallion, bull, boar, ram and buck 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 production data per ejaculate

Photometer SDM 6, for the determination of semen concentration and for dose calculation, with integrated printer

REF. : 12300/0006

Photometer SDM 6, without printer

REF. : 12300/0008

Accessories

Microcuvette for SDM 1, 100/box

REF. : 12300/1111

Multispecies Software

for reprogramming to other species

REF. : 12300/0130

Photometer SDM 1

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

- Calibration for equine 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
- Power supply: with included mains adapter 100 – 240V or batteries

REF. : 12300/0101

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

Pipette 10-100 μl, autoclavable

REF. : 12425/4810

Pipette tip yellow, 1000/package

REF. : 12425/9409
EquiPlus

Balanced medium with dry milk for preservation of sperm activity up to 72 hours. Designed for 5°C storage and transport.

With antibiotics:

Powder
- for 1 l, with Lincomycin and Spectinomycin REF. : 13570/0202
- for 100 ml, with Lincomycin and Spectinomycin REF. : 13570/0210

Liquid
- 200 ml, with Lincomycin and Spectinomycin REF. : 13570/0250
- 200 ml, with Ticarcillin REF. : 13570/0260
- 200 ml, with Amikacin and Penicillin REF. : 13570/0261
- 100 ml, with Gentamicin REF. : 13570/0301

Without antibiotics:

Powder, for 1 l, without antibiotics REF. : 13570/0201
Powder, for 100 ml, without antibiotics REF. : 13570/0240
Gent

For fresh semen, with egg yolk and antibiotics, ready to use.

<table>
<thead>
<tr>
<th>Amount</th>
<th>REF.</th>
</tr>
</thead>
<tbody>
<tr>
<td>45 ml</td>
<td>: 13571/0045</td>
</tr>
<tr>
<td>100 ml</td>
<td>: 13571/0100</td>
</tr>
</tbody>
</table>

EquiPlus Reinforcer

Designed to improve sperm transport in the uterus and to optimize survival of viable spermatozoa in the mare’s reproductive tract. Semen is recovered post-breeding, then evaluated and extended before it is placed back into the mare during reinforcement breeding. Ready-to-use, requires no dose calculations.

<table>
<thead>
<tr>
<th>Amount</th>
<th>REF.</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 ml</td>
<td>: 13570/0600</td>
</tr>
</tbody>
</table>

CushionFluid

For gentle centrifugation of stallion spermatozoa. Assures a higher yield of sperm cells as compared to standard centrifugation.

<table>
<thead>
<tr>
<th>Amount</th>
<th>REF.</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 ml</td>
<td>: 13580/0001</td>
</tr>
</tbody>
</table>

Centrifugation medium

Powder for 1 l transparent EDTA – Glucose solution

<table>
<thead>
<tr>
<th>REF.</th>
</tr>
</thead>
<tbody>
<tr>
<td>: 13565/0001</td>
</tr>
</tbody>
</table>

Water for semen extenders

Bidistilled, sterilized, pyrogen-free

<table>
<thead>
<tr>
<th>Amount</th>
<th>REF.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 l</td>
<td>: 13570/1000</td>
</tr>
<tr>
<td>100 ml</td>
<td>: 13570/1100</td>
</tr>
</tbody>
</table>

Minitube extenders are produced according to highest quality standards.

All components are from constantly excellent, controlled sources. Each extender batch is tested for its chemical, microbiological, physical and biological properties. Certificates are available upon request.
CRYOPRESERVATION OF SEMEN

Spectrum - The SBS CryoSystem

The SBS CryoSystem consists of a range of Spectrum freezing extenders, which feature different cryoprotectants and specific different egg yolk or milk content. The Spectrum concept allows to identify the best freezing extender for each individual stallion. All Spectrum extenders are presented as ready to use solutions. There is no need to source individual components or to add antibiotics.

With Spectrum extenders and the SBS CryoSystem it is now possible to achieve pregnancy rates with frozen-thawed semen which are comparable to cooled semen. Spectrum extenders are presented in convenient package sizes. Transport and storage at -20°C.

<table>
<thead>
<tr>
<th>Spectrum Red</th>
<th>Spectrum Orange</th>
<th>Spectrum Blue</th>
<th>Spectrum Violet</th>
</tr>
</thead>
<tbody>
<tr>
<td>- High egg yolk content</td>
<td>- Complex formula</td>
<td>- Complex formula</td>
<td>- Complex formula</td>
</tr>
<tr>
<td>- No milk</td>
<td>- Low in milk and egg yolk</td>
<td>- Low in milk and egg yolk</td>
<td>- Low in milk</td>
</tr>
<tr>
<td>- Best combined with rapid cooling and freezing</td>
<td>- Best combined with slow cooling and freezing</td>
<td>- Best combined with slow cooling and freezing</td>
<td>- Best combined with slow cooling and freezing</td>
</tr>
<tr>
<td>30 ml</td>
<td>30 ml</td>
<td>30 ml</td>
<td>30 ml</td>
</tr>
</tbody>
</table>

Spectrum extenders are not available in the US, Canada and Australia.

Test Freeze Kit

Minitube offers a Test Freeze Kit, containing the main Spectrum extenders in smaller quantities, plus centrifugation medium and CushionFluid for centrifugation. With the help of this Test Kit, it is possible to find the best Spectrum extender for each stallion.

- 2 x Spectrum Orange (15 ml), 2 x Spectrum Red (15 ml)
- 1 x Spectrum Blue (15 ml), 1 x Spectrum Violet (15 ml), 1 x Spectrum Green (15 ml)
- 2 x CushionFluid, 30 ml
- 2 x SBS Centrifugation Medium, 120 ml

Test Freeze Kit

www.minitube.com
### Universal cabinet

**For warming and sterilization.** Temperature range: +30°C to +220°C.

Various sizes available (dimensions inside, W x H x D)

<table>
<thead>
<tr>
<th>Size (L)</th>
<th>Dimensions (mm)</th>
<th>Weight (kg)</th>
<th>Voltage (V)</th>
<th>Ref.</th>
</tr>
</thead>
<tbody>
<tr>
<td>32</td>
<td>400 x 320 x 250</td>
<td>44</td>
<td>230</td>
<td>14127/0032</td>
</tr>
<tr>
<td>32</td>
<td>400 x 320 x 250</td>
<td>44</td>
<td>115</td>
<td>14127/0033</td>
</tr>
<tr>
<td>53</td>
<td>400 x 400 x 330</td>
<td>55</td>
<td>230</td>
<td>14127/0053</td>
</tr>
<tr>
<td>53</td>
<td>400 x 400 x 330</td>
<td>55</td>
<td>115</td>
<td>14127/0054</td>
</tr>
<tr>
<td>108</td>
<td>560 x 480 x 250</td>
<td>72</td>
<td>230</td>
<td>14127/0108</td>
</tr>
<tr>
<td>108</td>
<td>560 x 480 x 250</td>
<td>72</td>
<td>115</td>
<td>14127/0109</td>
</tr>
<tr>
<td>256</td>
<td>640 x 800 x 500</td>
<td>96</td>
<td>230</td>
<td>14127/0256</td>
</tr>
<tr>
<td>256</td>
<td>640 x 800 x 500</td>
<td>96</td>
<td>115</td>
<td>14127/0257</td>
</tr>
</tbody>
</table>

### Water bath

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

<table>
<thead>
<tr>
<th>Size (L)</th>
<th>Inner Dimensions (mm)</th>
<th>Weight (kg)</th>
<th>Voltage (V)</th>
<th>Ref.</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>240 x 210 x 140</td>
<td>115</td>
<td>230</td>
<td>14078/0001</td>
</tr>
<tr>
<td>7</td>
<td>240 x 210 x 140</td>
<td>115</td>
<td>115</td>
<td>14078/0002</td>
</tr>
<tr>
<td>10</td>
<td>350 x 210 x 140</td>
<td>115</td>
<td>230</td>
<td>14079/0001</td>
</tr>
<tr>
<td>10</td>
<td>350 x 210 x 140</td>
<td>115</td>
<td>115</td>
<td>14079/0002</td>
</tr>
</tbody>
</table>
LAB EQUIPMENT AND SUPPLIES

**Centrifuge Minitube**

With swing out rotor for 4 buckets. Delivered with buckets for three different vial sizes: 100 ml (1 vial/bucket), 50 ml (1 vial/bucket) and 15 ml (2 vials/bucket). Speed range: 500-4000 RPM (equates up to 2200 g). Speed can be shown as RPM or RCF (relative centrifugal force, „g“). Programmable (10 different setups).

- **230 V**
  - REF.: 14601/0000
- **110 V**
  - REF.: 14601/0001

**Rolling mixer RM5**

For gentle, constant homogenization of semen doses in tubes. Appropriate for use inside the refrigerator. Dimensions: 430 x 180 mm (W x H)

- **230 V**
  - REF.: 14340/0348
- **115 V**
  - REF.: 14340/0349

**Shaker**

Platform with two fixation devices and non-slip rubber pad, includes timer. Shaking frequency: 150-1350 cycles/min

Area of platform: 220 x 220 mm

- **230 V**
  - REF.: 14703/0304
- **115 V**
  - REF.: 14703/0305

**Glass ware**

Measuring pipettes, graduated cylinders, beakers, dispensers, test tubes, Erlenmeyer flasks etc.

*Please ask for a detailed list of our lab glass ware!*
LAB EQUIPMENT AND SUPPLIES

Plastic vials

Plastic vial with graduation and screw cap
- 30 ml, 50/package [REF.: 17231/0030]
- 50 ml, 25/package [REF.: 17220/0017]
- 13 ml, sterile, with cap, 100/package [REF.: 17230/6001]
- 13 ml, round bottom, 100/package [REF.: 17230/6000]

Screw cap for 13 ml plastic vial, 100/package
- red [REF.: 17230/6055]
- blue [REF.: 17230/6056]
- green [REF.: 17230/6058]
- white [REF.: 17230/6054]
- violet [REF.: 17230/6057]
- yellow [REF.: 17230/6059]

Rack for 20 plastic vials 12/13 ml, acrylic glass [REF.: 17230/9384]
Rack for 20 plastic vials 30 ml, acrylic glass [REF.: 17231/9384]
Rack for 24 test vials of 18 mm, stainless steel, with numbers [REF.: 14076/0005]

Sterile bags

With incorporated wire and write-on tag, 100/package
- Volume 60 ml [REF.: 17224/0250]
- Volume 120 ml [REF.: 17224/0500]
- Volume 350 ml [REF.: 17224/1000]

Disposable syringes

All plastic, sterilized, in sizes from 1 ml to 50 ml
- 1 ml, 100/package [REF.: 19801/0001]
- 2 ml, 100/package [REF.: 19801/0002]
- 5 ml, 100/package [REF.: 19801/0005]
- 10 ml, 100/package [REF.: 19801/0010]
- 20 ml, 100/package [REF.: 19801/0020]
- 30 ml, 500/package [REF.: 19801/0063]
- 50 ml, 300/package [REF.: 19801/0060]
**Straw Processing and Freezing**

**Semen straws**

<table>
<thead>
<tr>
<th>Color</th>
<th>Medium Straw 0.5 ml</th>
<th>EcoStraw 0.5 ml</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transparent</td>
<td>13408/0010</td>
<td>13408/3010</td>
</tr>
<tr>
<td>Red - transparent</td>
<td>13408/0044</td>
<td>13408/3044</td>
</tr>
<tr>
<td>Green - transparent</td>
<td>13408/0054</td>
<td>13408/3054</td>
</tr>
<tr>
<td>Blue - transparent</td>
<td>13408/0064</td>
<td>13408/3064</td>
</tr>
<tr>
<td>Grey - transparent</td>
<td>13408/0074</td>
<td>13408/3074</td>
</tr>
<tr>
<td>Yellow - transparent</td>
<td>13408/0094</td>
<td>13408/3094</td>
</tr>
<tr>
<td>Pink</td>
<td>13408/0100</td>
<td>13408/3100</td>
</tr>
<tr>
<td>Turquoise</td>
<td>13408/0130</td>
<td>13408/3130</td>
</tr>
<tr>
<td>Orange</td>
<td>13408/0140</td>
<td>13408/3140</td>
</tr>
<tr>
<td>Orange - transparent</td>
<td>13408/0144</td>
<td>13408/3144</td>
</tr>
<tr>
<td>Pistachio green</td>
<td>13408/0200</td>
<td>13408/3200</td>
</tr>
<tr>
<td>Pistachio green - transparent</td>
<td>13408/0204</td>
<td>13408/3204</td>
</tr>
<tr>
<td>White</td>
<td>13408/0210</td>
<td>13408/3210</td>
</tr>
</tbody>
</table>

*Straws can also be delivered pre-printed. Please ask for the Minitube printing service!*

**Macrotubes**

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Length (mm)</th>
<th>Ref.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5 ml</td>
<td>140</td>
<td>13441/0133</td>
</tr>
<tr>
<td>4 ml</td>
<td>240</td>
<td>13441/0240</td>
</tr>
<tr>
<td>5 ml</td>
<td>280</td>
<td>13441/0280</td>
</tr>
</tbody>
</table>

*Sealing balls for macrotubes: Metal or glass, available in many different colors.*
PRINTING OF SEMEN STRAWS

**EasyCoder**

**Your benefits**

- Unmatched neat and clear printing on 0.5 and 0.25 ml straws
- Immediately non-abrasive print
- Printing of barcode signs, logos and specific characters
- Adjustable character fonts and graduations from micro to macro
- Freely eligible number of lines and of printing positions
- Control via PC by a clear and user-friendly Minitube software
- Clean and odorless working without ink and solvents
- Easy handling, little maintenance required
- Easy and quick conversion between different straw sizes

**EasyCoder printer**  
**REF. : 13038/0000**

**Color ribbon, black**  
**REF. : 13038/0010**

**Technical features**

- Thermal transfer printer with automatic straw supply
- Output: 3600 straws per hour
- Windows based Minitube software with data base for storing names and numbers
- Data transfer by serial port or USB adapter (included)
- Dimensions (W x H x D): 690 x 370 x 310 mm (PC not included)
- Power supply: 110-230 V AC, 50/60 Hz

**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**
FILLING AND SEALING OF STRAWS

MPP Uno

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

Your benefits

- Conversion between 0.25 ml straws and 0.5 ml straws without exchanging any parts and within only a few minutes
- Sealing performed by ultrasound
- Vacuum pump and pressure controller integrated into the device
- Very compact device which requires minor space
- Best hygienic and safety conditions due to completely closed filling and sealing area
- No wearing parts – very fast and easy cleaning

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

Semiautomatic filling and sealing system SFS 133

For 0.5 ml straws. The straws are filled and sealed 6 by 6. Safe and hygienic sealing system with beads. The air bubble is created automatically.
Output: approx. 2000/hour

SFS 133  REF. : 13133/0133
Vacuum pump
with adjustable valve and manometer  REF. : 13133/0267
Loading block
with rack and 10 magazines
for 36 straws each  REF. : 13133/0005

Accessories

Sealing beads, glass (various colors)  REF. : 13400/0XXX
Sealing beads, metal  REF. : 13400/9900
Support for semen cone  REF.: 5013018/0932

www.minitube.com
FREEZING OF STALLION SEMEN

IceCube

IceCube 14S: computer controlled freezer, with comfortable data input and automatic recording of the freezing curve.

Technical 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 x 0.5 ml straws per freezing cycle

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

Dimensions: 540 x 420 x 520 mm (L x W x H), weight: 29 kg

IceCube 14S with touch screen monitor

REF. : 16821/3000

with 10” tablet

REF. : 16821/2000

with 12” touch screen monitor,
to connect to own PC or laptop

REF. : 16821/1000

without screen, to connect to own PC or laptop

REF. : 16821/1000

Larger alternative:

IceCube 14M - capacity: approx. 2300 x 0.5 ml straws

REF. : 16820/7000

with 12” touch screen monitor

REF. : 16820/6000

without screen

REF. : 16820/6000

Accessories

(1) Rack for IceCube 14S, for 36 straws

REF. : 16821/5036

Loading device for straw rack

REF. : 16821/5037

(2) Handling rack for IceCube 14S

REF. : 16821/5030

(3) Spacer for IceCube 14S

REF. : 16821/5018

Liquid Nitrogen pressure container

for IceCube 14S, 60 l

REF. : 16820/1900

Roller base for LN\textsuperscript{2} pressure container

REF. : 16501/0204

(4) Pliers for racks

REF. : 16821/5031

Please ask for embryo freezing equipment for the IceCube!
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

For 20 straws  
REF. : 15043/0636
For 90 straws  
REF. : 15043/0736

Accessories

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

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

Goblets

Plastic containers for the storage of straws, available in different sizes and colors:

<table>
<thead>
<tr>
<th>Diameter</th>
<th>Color</th>
<th>REF.</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.1 mm</td>
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</tr>
<tr>
<td>13 mm</td>
<td>red</td>
<td>:16913/3133</td>
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<tr>
<td>13 mm</td>
<td>pistachio</td>
<td>:16913/4133</td>
</tr>
<tr>
<td>13 mm</td>
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<tr>
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<td>white</td>
<td>:16935/0135</td>
</tr>
<tr>
<td>65 mm</td>
<td>white</td>
<td>:16965/0133</td>
</tr>
</tbody>
</table>

Goblet hexagonal for 36 of 0.5 ml or 80 of 0.25 ml straws  
white  
REF. : 16970/0136
Semen Transport and Storage

Equitainer

World-wide proven system for cooling, storage and transport of fresh semen.

1. Tube-style isothermalizer, to fit two 50 ml tubes, 6 x 50 ml tubes and 2 coolant cans
   REF. : 17220/0015

2. Coolant can
   REF. : 17221/0120

3. Ballast bag
   REF. : 17221/0130

4. Isothermalizer tube style for two 50 ml tubes
   REF. : 17220/0016

5. 50 ml tubes
   REF. : 17220/0017

Neopor transport box

Minitube transport box, made of highly insulating Neopor, complete with two ice-packs, two syringes (20 ml) and outer shipping carton, holding optimal temperature for approx. 45 hours

Neopor transport box
   REF. : 17229/0002
SEMEN TRANSPORT AND STORAGE

Cryogenic containers for storage

MVE storage container

ET20, 6 canisters, 279 x 41 mm, capacity: 20.7 l liquid nitrogen, 1758 0.5 ml semen straws; normal working-duration: 113 days; neck opening: 55 mm, total height: 627 mm, weight (full): 26 kg  
REF. : 16503/2056

ET35, 6 canisters, 279 x 41 mm, capacity: 36 l liquid nitrogen, approx. 1758 0.5 ml semen straws; normal working-duration: 182 days; neck opening: 55 mm, total height: 679 mm, weight (full): 42 kg  
REF. : 16503/3606

ET40-10, 10 canisters, 279 x 71 mm, capacity: 39 l liquid nitrogen, approx. 10000 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

Other capacity/size on request.

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 conform  
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 conform  
REF. : 16504/3001

Protective shipping container for Vapor Shipper, made of plastic, IATA conform  
REF. : 16504/3010

One-Way-Shipper 3.0

Single use shipper; ensures a safe shipment of temperature-sensitive semen doses. IATA conform.  
Static holding time: 4 days  
Capacity: 200 x 0.25 /100 x 0.5 ml straws, 3 liter  
Weight: 4.5 kg  
REF. : 16502/0003

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

Universal pipettes

Your benefits

- Suitable for liquid and frozen-thawed semen in straws
- Smooth round tip for gentle introduction
- Flexible shaft facilitates handling
- Precision tooled tip with inner cone for 0.5 ml straws to allow direct position of semen into the uterus and to ensure 100% semen delivery
- The reload system: if used with the AI stylet for 0.5 ml straws, the same pipette can be reloaded with consecutive straws in situ
- Finger handle with adapter to fit syringe and macrotube straw

Length: 57 cm
5/package REF. : 17209/0005
1/package, sterilized REF. : 17209/0001

Long pipette with very flexible shaft for deep intrauterine insemination

Length: 65 cm
5/package REF. : 17209/1165
1/package, sterilized REF. : 17209/1265

Length: 75 cm
5/package REF. : 17209/1175
1/package, sterilized REF. : 17209/1275
Deep intrauterine insemination pipette with inner catheter

For deep intrauterine insemination with small volumes of liquid semen, if straws cannot be used. The pipette is provided with an inner catheter to reduce the volume of the channel where the semen has to pass through.

Length: 65 cm
- 5/package, sterilized  REF.: 17207/1265
- 1/package, sterilized  REF.: 17207/1165

Length: 75 cm
- 5/package, sterilized  REF.: 17207/1275
- 1/package, sterilized  REF.: 17207/1175

Deep intrauterine kit

Includes deep intrauterine universal pipette with inner catheter, 5 ml syringe, supersensitive glove

Length: 65 cm  REF.: 17207/2065
Length: 75 cm  REF.: 17207/2075

Stylet for insemination of frozen semen

With Universal pipette plus stylet. Semen in 0.5 ml straws is directly placed into the uterus, ensuring 100% semen delivery. The stylet is made of stainless steel and is provided with 2 knobs to pull out empty straws, thus the same pipette can be reloaded several times.

Stylet for pipettes

Flexible stylet for deep intrauterine or transcervical insemination with 0.5 ml straws and 2 knobs for pulling out empty straws

Length: 57 cm  REF.: 17209/1057
Length: 65 cm  REF.: 17209/1065
Length: 75 cm  REF.: 17209/1075
INSEMINATION OF MARES

Insemination pipettes for liquid semen

Length: 60 cm, rounded tip, 25/bag, fits luer syringe
REF. : 17209/2000

With tubing, 1/bag, sterilized
REF. : 17209/2210

Length: 65 cm, larger diameter, 25/bag, fits luer syringe
REF. : 19290/1105

Semen transfer adapter for syringe, length 13 cm, 10/bag
REF. : 17229/0020

Hygienic sheath

Disposable sheath to protect ET or AI pipette during uterine passage, length: 62.5 cm (70/roll)
REF. : 17209/5070

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

MiniCutter for straws
REF. : 17062/0010

Thawing device

- Electronic temperature control
- Central, built-in thawing chamber with lift
- Temperature setting: +38°C, also available with 35°C, 37°C and 50°C
- LEDs for indicating the activation of heating cycle and temperature
- Accuracy: ±0.2°C
- Power supply: 12 V DC (car battery)

MT 30/54
REF. : 17044/0038

Transformer for thawing device MT for 12 V/220 V
REF. : 17165/1395

Insemination gloves

(1) Sensitive
green, 5 finger, shoulder length, 100/box
REF. : 17080/0015

(2) Super-sensitive
transparent, 100/box
REF. : 17080/0050

Single packed, sterilized, 50/package
REF. : 17080/0250
**DIAGNOSTIC TOOLS**

**Uterus culture swab**

Consists of introduction pipette with pre-perforated cap for sampling without risk of contamination. Predetermined breaking point of the sample-protecting sheath. Includes two closing caps for transport of the swab to the lab. Swab may be inserted directly into AMIES transport medium to avoid dehydration of the sample. Individually packaged and sterilized.

- **Swab with AMIES transport medium**  REF.: 17214/2951
- **Swab without transport medium**  REF.: 17214/2950

**Cytology brush**

For picking up cells of the uterus of mares to perform cytology smears for immediate evaluation.

  REF.: 17214/2960

**Disposable speculum for mares**

1. Made of cardboard, inside with reflecting aluminum coating, smooth front edge for gentle introduction, inner diameter: 3 cm, length: approx. 43 cm  REF.: 17210/0000

2. LED-light, battery operated (up to 250 h), with clip for fixing, length: 96 mm  REF.: 17210/0010

3. Metal case with lid and handles for sterilization and transport of speculum and cervical forceps, 560 x 230 x 120 mm (W x H x D)  REF.: 17215/0149

4. Polansky speculum  REF.: 17210/4200

5. Cervical forceps according to Götze
   - with lamp, 54 cm  REF.: 17212/0055
   - without lamp  REF.: 17212/0054

- **Biopsy forceps**, 66 cm length  REF.: 17214/5066

**Colostrum refractometer**

Determines the amount of immunoglobulin in the mare colostrum to ensure sufficient supply for the new born foal. Colostrum of good quality should be frozen for emergency use. Only one drop of colostrum is required for testing. No batteries, no consumables, easy handling. Case included.

  REF.: 24400/0150
Embryo flushing catheters for mares

Made of silicone, sterilizable, length approx. 90 cm, Foley end, 2 large front ports, open ended, 100 ml balloon, sterilized.

The balloon, when inflated, facilitates tight closure of the cervix. All sizes allow high flow of flushing media in combination with high-flow Y-junction.

CH 28  REF. : 19009/0027
CH 32  REF. : 19009/0032
CH 36  REF. : 19009/0036
EQUINE EMBRYO TRANSFER

**Flush tubing**

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 and flexible material, end for filter connection without extra adapter.

1. **High flow Y-junction tubing, Foley end**  
   Ref. : 19982/0202

**Standard Y-junction tubing:**

2. **Luer end**  
   Ref. : 19011/0100

3. **Foley end**  
   Ref. : 19011/0200

**Luer adapter** for CH 28-38 catheters and for foley catheters  
Ref. : 19009/1238

**Filters for embryo collection**

- All-in-one filter and search dish
- 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

**EmSafe**

EmSafe is ideal for both large and small embryos. The filter system automatically holds a minimum level of 60 ml rinsing fluid in the dish. An angled filter mesh provides an optimal flow-through rate and the air vent in the lid is secured by a filter.

1. **EmSafe filter**  
   Ref. : 19010/6000

**EmGuard**

Due to its shallow design, the EmGuard filter system 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.

2. **EmGuard filter**  
   Ref. : 19010/1000

**MiniFlush**

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

3. **MiniFlush filter**  
   Ref. : 19222/2000
EQUINE EMBRYO TRANSFER

Media for flushing and holding

EquiFlush
Ready for use, contains buffers, BSA or PVA and antibiotics

With BSA. 2 liters  REF.: 19982/6202
With PVA. 2 liters  REF.: 19982/6212

EquiHold
Applicable for
- holding embryos at ambient conditions
- transporting embryos
- washing and rinsing embryos
- loading embryos for transfer to recipient animal

Contains buffers, glucose, pyruvate, BSA, amino acids, growth factors and antibiotic

3 x 5 ml vials  REF.: 19982/6250

Vitrification

Equine VIT-Kit
Vitrification is a proven method for cryopreservation of Equine embryos.
The VIT-Kit for equine embryos contains everything needed for vitrification of three equine embryos: equilibration medium (3 x VS1, 3 x VS2, 3 x VS3), 3 x diluent, 1 x syringe 1 ml, 3 x pipette tip, 4 x 5-well dish, 10 x 0.25 ml sterile straws, 10 x 0.5 ml sterile straws, 3 x ID-sticks, 1 x 10 mm goblet cane, 3 x 10 mm goblets

REF.: 19982/6251

Handling of embryos

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

Type A  REF.: 19022/0000
Type B  REF.: 19022/0002

Glass capillary tube. 250/package
20 μl  REF.: 19022/0020
50 μl  REF.: 19022/0050

Steripette for embryo handling. 60 mm length, sterilized, 50/package  REF.: 19025/0050

Disposable syringe. 1 ml, luer end, sterilized  REF.: 19025/0000

Embryo culture dish with lid, sterilized, 5 wells, rounded well edges, shallow wells for easy handling, 4/bag  REF.: 19021/0005
EQUINE EMBRYO TRANSFER

Stereo microscope

Magnification 10x to 70x, eye-pieces 10x, LED light source, light-/dark-field mirror, transmitted light illumination

REF. : 12014/0000

with photo tube

REF. : 12014/1000

Accessories

Heating stage for stereo microscope, 180 x 180 mm

REF. : 12055/0003

Control unit HT 50, for heating stage, adjustable temperature, digital display

REF. : 12055/0050

Embryo transfer with 0.5 ml straws

Sheath for equine embryo transfer, front end opening, individually packaged, 10/package, sterilized

REF. : 19290/1050

Sheath for equine embryo transfer, side openings, individually packaged, 10/package, sterilized

REF. : 19290/1060

Finger support and ring, for use with sheath for equine ET and AI stylet 17209/1065

REF. : 19290/1048

Equine embryo transfer pipette, metal tip with side opening, flexible, 1/package, disposable, sterilized, use with AI stylet 17209/1065

REF. : 19290/1065

Inner catheter for equine embryo transfer pipette, to flush embryo into the uterus with approx. 2 ml volume, no need to load it into a straw

REF. : 19290/1066

Stainless steel ET instrument

Sterilisable transfer instrument for 0.5 ml straws, 1 side outlet, length 55 cm, screw-off tip

REF. : 19290/0000
EQUINE EMBRYO TRANSFER

Embryo transfer with 0.25 ml straws
Deep intrauterine ET/AI set
with finger support, stylet, fixation rings  
REF. : 17015/0100
Sheath for equine ET/AI, with 0.25 ml straws, side opening, for usage
with stylet 17015/0100, sterilized, individually packaged, 10/bag
REF. : 17015/0660

Embryo transfer > day 8
ET/AI Pipette, rounded ends, fits luer syringe, sterilized, 1/bag, length 65 cm
REF. : 19290/1101

Straws
0.5 ml straw, clear, sterilized
with sealing ball, 1/package  
REF. : 19043/0001
with sealing ball, 10/package  
REF. : 19043/0010
without sealing ball, 1/package  
REF. : 19043/1011
without sealing ball, 10/package  
REF. : 19043/1010
length 90 mm, without wick, 10/package  
REF. : 19044/9110

0.25 ml straw, clear, sterilized, 10/package
with ID rod seal in many bright colors  
REF. : 19040/00xx
with sealing ball  
REF. : 19041/0010
without seal  
REF. : 19042/0010

Hygienic sheath
Disposable sheath to protect ET or AI pipette during uterine passage,
length: 62.5 cm (70/roll)  
REF. : 17209/5070
Ultrasonic device LOGIQ® V2

- Realtime-computer-scanner for linear and convex sector ultrasound
- Operating modes: B-Mode, M-Mode, Coded Phase Inversion Harmonic imaging, Color M Mode, Color Flow Mode (CFM), Power Doppler Imaging (PDI), Directional PDI, PW Doppler with High PRF
- Dimensions: 12 x 40 x 37 cm (H x L x W)
- Monitor: 15” (381 mm) high-resolution LCD
- 100-240 VAC / 50/60 Hz

Convex sector probe, 6.0 - 10.0 MHz

Ultrasound probe holder

- The probe holder has a needle guide included
- The probe holder is used with the double lumen needle: The two spaces allow simultaneous or alternating aspiration and injection of fluids into and from the follicles
- The OPU needle is connected to the aspiration and flushing pump for Equine OPU, Ref. 23362/0002 (230 V) or 23362/0003 (115 V)

OPU pump for follicle aspiration and flushing

- Two pumps and a warming block are combined into one unit for convenient oocyte aspiration
- Pressure level and hysteresis are programmable by the user
- The pump is operated by foot switches
- Operating voltage: 220-240 V~, 50-60 Hz; also available for 115 V (Ref. 23362/0003)

Minitube OPU Media

EquiPlus OPU Recovery Medium, 500 ml

You are interested in micromanipulation and ICSI? Please ask our specialists!
Minitüb is an ISO 9001:2015 certified company.