Innovative ideas, modern production techniques and a keen appreciation of product quality are the basic ingredients of Minitube.

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WORLD WIDE ACTIVITIES

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Minitube is a registered trademark of Minitüb GmbH, Germany.
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 specialised 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 International 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.

[Signature]
DR. CHRISTIAN SIMMET
CEO
IDA AND IDENT: SOFTWARE FOR THE BULL SEMEN LABORATORY

THE IDA LABORATORY SOFTWARE INTEGRATES ALL EJACULATE DATA AND LINKS ALL PROCESSES FROM SEMEN COLLECTION TO PRODUCTION STATISTICS.

Your benefits

- Efficiency, safety and traceability
- IDA introduces a high security level in your lab
- The whole process is standardised and optimized
- Automatic integration of ejaculate parameters through interfaced hardware
- Automatic data transmission to and from the straw printing and filling system
- IDA helps to save time and labour
- Every step is documented and verifiable
- Statistical analysis of all relevant production data
- IDA can easily be connected with other software applications
- IDA is a very user friendly software

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IDA AND IDENT: SOFTWARE FOR THE BULL SEMEN LABORATORY

**IDA** is a flexible, multitalented and modular computer program, based on an Access database. It automates and links ejaculate analysis including record keeping of thawing controls as well as extender dispensing and semen packaging in straws. The identification of each ejaculate can be entered manually, by barcode label or through a transponder. The ejaculate data file guarantees quick and precise ejaculate data management.

The connected lab equipment like scale, photometer or AndroVision® transfer analysis data quickly and securely to the lab computer. Automatic calculation of extender quantities, automatic semen dilution by means of the Smart Dispenser and the data transfer to the filling machine greatly rationalize laboratory work. Production data is provided in real time for administration and sales. Due to the Access database the connection is carried out comfortably.

A special menu item provides evaluation and administration of bull and ejaculate data.

IDA is available in multiple languages.

**ELECTRONIC BULL IDENTIFICATION WITH IDENT**

**01**
Reading of bull identity via electronic ear tag

**02**
Reading of technician’s ID

**03**
Print-out of barcode label

**04**
Reading of barcode label with bull ID in the lab

**IDENT** is available in addition to IDA or as an independent program: The software contains collection planning, the identification of bulls via electronic ear tags, the electronic identification of semen collection staff and the print-out of labels with bull identity, bar code and further information about the semen collection.

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### BULL SEMEN COLLECTION

#### The mobile dummy cow

**Your benefits**

- Hydraulic height adjustment for bulls of different sizes
- Safe and easy operation
- Comfortable semen collection for the bull
- Ideal stimulation of the bull with controlled forward and backward movements
- Minimum risk for the bull due to the separated, smooth hindquarters
- Optimal hygiene when used with disposable sanitary covers

**Product features**

- Body made of rigid, zinc-coated steel
- High quality padding
- Cover made of reinforced PVC material
- Inside seat for the collector

**Bovine collection dummy, mobile**  REF. : 11000/1000

**Bovine collection dummy, stationary**  REF. : 11000/0500

**Accessories**

**Disposable sanitary cover, 100/package**  REF. : 11000/0200

**Plastic cover for dummy cow, with leather belt**  REF. : 11000/0100
Bull Semen Collection

Bovine artificial vagina

Minitube offers bovine artificial vaginas in 4 different lengths to suit all kinds and sizes of bulls.

**Casing with valve**
- 20 cm  [REF.: 11021/0020]
- 30 cm  [REF.: 11021/0033]
- 35 cm  [REF.: 11021/0035]
- 41 cm  [REF.: 11021/0041]

**Inner liner**
- smooth, 650 mm length  [REF.: 11022/0002]
- rough, 650 mm length  [REF.: 11022/0003]
- rough, 480 mm length  [REF.: 11022/0005]
- disposable, roll 200 m  [REF.: 11022/0010]

**Director cone**
- latex  [REF.: 11024/0000]
- silicone  [REF.: 11024/0050]

**Collection vial**
- plastic, graduated, with lid, 15 ml  [REF.: 11023/0018]

**Warming bag**
- neoprene, blue, 58 cm  [REF.: 11025/0058]
- green
  - 18 cm  [REF.: 11025/0018]
  - 35 cm  [REF.: 11025/0035]
  - 45 cm  [REF.: 11025/0045]

**Rubber ring**  [REF.: 11022/0001]

**Accessories**

- Greasing stick  [REF.: 11905/0050]
- ReproJelly, non spermicidal lubricant, 3 l, 4/ box  [REF.: 11907/3000]
- Thermometer, unbreakable  [REF.: 11027/0000]
- Collection vial, glass, graduated, 15 ml  [REF.: 11023/0015]
- Rubber plug for 15 ml vial  [REF.: 11023/1500]
- Tulip shape collection glass, 8 ml  [REF.: 11023/0016]

**Sterivar**

Low pressure steriliser, specially designed 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 for artificial vaginas for bulls.

**Sterivar 230 V**  [REF.: 11050/0015]
**Sterivar 115 V**  [REF.: 11050/0014]

**Technical features**

- Capacity: 15 artificial vaginas
- Temperature range: up to +100°C
- Pressure: max. 0.02 bar
- Inside dimensions: 750 x 400 mm
- Power supply: 115 V/60 Hz or 230 V/50 Hz
- Power consumption: 3500 W

**Accessories**

- Roller base for Sterivar  [REF.: 11051/0000]
- Sterivar insert for 15 latex cones  [REF.: 11051/1015]
**BULL 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. Semen collection is made easier, especially from older bulls that may be difficult to stimulate.

Power supply: 115 V/60 Hz or 230 V/50 Hz.

**Electro ejaculator** basic unit with case  
REF. : 11900/0000

**Accessories**

- **Probe 2.5”**  
  REF. : 11900/0025
- **Probe 2”**  
  REF. : 11900/0022
- **Semen collection funnel and holder**  
  REF. : 11900/0250

**Warming cabinet**

**Product features**

- Suitable for artificial vaginas and accessories
- Casing and interior made of stainless steel
- Multifunctional PID microprocessor controller
- 2 Pt-100 sensors with two way control
- Forced air ventilation
- Digital timer, adjustable from 1 minute to 99 days, 23 hours

**Technical features**

- Volume: 449 l
- 2 insert racks
- Dimensions (w x h x d)  
  Inside: 104 x 72 x 60 cm  
  Outside: 122 x 124 x 78 cm
- Temperature range: +10°C above ambient up to +300°C
- Power supply: 400 V (± 10 %) / 50-60 Hz
- Power consumption: approx. 5800 W (in heating function)

We offer many different models and sizes of warming cabinets, also pass-through models.
ANDROVISION® – MORE THAN CASA

AndroVision®

This highly precise automated system for computerised semen analysis stands out for the integration of the classic CASA analysis with more advanced assays for sperm functionality. Concentration and motility as well as acrosome integrity, viability, mitochondria activity and DNA integrity can be assessed accurately and quickly with up to 1000 cells per field, making AndroVision® the perfect tool for the objective and complete semen evaluation. All images and data are stored for later review.

An analysis report can be generated as a hard copy print or a digital file. These features and more 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 colour camera  REF. : 12500/4200

Optional hardware configurations

AndroVision® CASA system
with laptop and accessories, portable  REF. : 12500/0010

AndroVision® CASA system
with touchscreen and barcode scanner  REF. : 12500/0001

Accessories

ScanStage
The automated microscope stage has an integrated heating system that can be used with a variety of different microscopes. Analysis points within a counting chamber are automatically approached for ever the same path of the microscope stage.

ScanStage with heating system  REF. : 12048/0000

Controller HT 300W  REF. : 12055/0302

Transportation case for accessories  REF. : 12500/9100

Transportation case for microscope  REF. : 12007/0312

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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 Krüger). 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**

**Phase contrast microscope CX 31**
- Infinity optic system: sharp images over the complete field
- Phase achromatic optics with universal condenser
- Heated original microscope stage with temperature control unit HT 200 with additional warming plate and two digital temperature displays
- Temperature freely selectable
- Ergonomic design
- Phase achromatic objectives
- 6 V/30 W halogen light

With phototube (trinocular)
with objectives 10x, 20x, 40x
ref. : 12004/0631

**Phase contrast microscope MBL 2000**
Functional microscope for semen analysis with phase achromatic objectives 10x, 40x, 100x, heating system with temperature control unit HT 50 with digital temperature display and freely selectable temperature adjustment

Binocular
ref. : 12010/2000

With ocular video camera and monitor
ref. : 12010/2100

**Semen dyes**

*Spermac* for differential staining, also for glycerol containing samples, consisting of 4 components, 50 ml each
ref. : 15405/0000

*Farely stain* for differential staining, not for glycerol containing samples, consisting of 3 components, 250 ml each
ref. : 15405/0026

*Eosin G* solution for one-step viability staining,
50 ml
ref. : 15405/0025

*Nigrosin* solution for combination with Eosin in viability staining, provides dark background for better visualisation of sperm cells,
50 ml
ref. : 15405/0029
PHOTOMETER SDM6

Photometer SDM6

Your benefits
- Programs for the determination of sperm concentration of bull, boar, stallion, 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

Technical features
- Spectral range: 340-578 nm
- Filter: 546 nm
- Halogen lamp
- Use of 10 mm macro cuvettes
- Analysis time: 2 seconds/sample
- Power supply: 230 V/50 Hz or 110 V/60 Hz

Photometer SDM6, for the determination of semen concentration and for dose calculation, with integrated printer

Photometer SDM6, without printer

Accessories
- Control cuvette set, 4 pieces
- Paper for printer
- Macro cuvette, 4 ml, 100/package
- NaCl solution, 0.9 %, 1 l
- Dispenser 0.5-5 ml for NaCl solution
- Bottle, 500 ml for dispenser
- Varipette 10-100 μl, with digital display
- Pipette tip yellow, 1000/package
Semen extenders

**AndroMed®**
- Egg yolk free medium for frozen and liquid bovine semen
- High fertility rates without ingredients of animal origin
- No risk of microbiological contamination
- Easy to prepare, time saving

**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**

**AndroMed® CSS, Two-step, fraction 1**  
100 ml, for a total of 500 ml extender  
**ref. : 13503/1250**

**AndroMed® CSS, Two-step, fraction 2**  
200 ml, for a total of 500 ml extender  
**ref. : 13503/1251**

**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**

**Steridyl®**
**Steridyl® 500 ml concentrate**, for a total of 1250 ml of extender, sterilised, requires no addition of egg yolk, 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**

**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**

**Antibiotic supplement for One-step extender**. Antibiotic formula in powder according to CSS protocol, contains: 550 mg Gentamicin, 110 mg Tylosin, 330 mg Lincomycin and 660 mg Spectinomycin.  
**ref. : 13504/9000**

**Bovidyl®**
**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.  
**ref. : 13501/0150**

**Antibiotic supplement for Two-step extender**. Antibiotic formula in powder according to CSS protocol, contains 300 mg Gentamicin, 60 mg Tylosin, 180 mg Lincomycin, 360 mg Spectinomycin.  
**ref. : 13500/0005**
BULL SEMEN DILUTION

Magnetic stirrer

Magnetic stirrer, without heater, 230 V/50 Hz  REF. : 14230/0000

Magnetic stirrer, with heater and connection for contact thermometer, 620 W 115 V/60 Hz  REF. : 14235/0731
230 V/50 Hz  REF. : 14235/0732

Accessories

Contact thermometer, for magnetic stirrer, electronic  REF. : 14235/7320

Support  for thermometer  REF. : 14235/7323

Stirring bars

25 mm  REF. : 14240/7125
30 mm  REF. : 14240/7130
40 mm  REF. : 14240/7140
50 mm  REF. : 14240/7150

SmartDispenser

- The automatic, electronically controlled dispensing system for bull semen extender adds security to your process
- Maximum degree of precision in terms of dispensed extender (±1 g) allows very precise sperm numbers per dose
- Operation as stand-alone unit or interfaced with IDA or other software
- Power supply: 115 V/60 Hz or 230 V/50 Hz

SmartDispenser for bull semen production, control unit with balance and pump, complete  REF. : 13200/0702

Water baths

Water bath with temperature control and water circulation stainless steel, capacity: 45 l, with insert racks for 20 diluent bottles and 72 semen collection vials
Inner dimensions (l x w x h): 590 x 350 x 220 mm
230 V/50-60 Hz, 2800 W  REF. : 14082/0600

Water bath with temperature control, stainless steel, capacity: 10 l
Inner dimensions (l x w x h): 350 x 210 x 140 mm
230 V/50-60 Hz  REF. : 14079/0001
110 V/60 Hz  REF. : 14079/0002

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

www.minitube.com
Cold handling cabinet

Spacious cold handling cabinet made of stainless steel for semen processing at +5°C working temperature. Timer for automatic defrosting cycle. Cover made of acrylic glass. Installed on heavy duty rolls.

Available in 2 sizes:

<table>
<thead>
<tr>
<th>Approx.</th>
<th>Working area (cm - W x D)</th>
<th>Outside dimensions (cm - W x D x H)</th>
<th>230 V/50 Hz</th>
<th>115 V/60 Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large</td>
<td>200 x 90</td>
<td>216 x 114 x 127</td>
<td>REF. : 14335/0403</td>
<td>REF. : 14335/0400</td>
</tr>
<tr>
<td>Standard</td>
<td>200 x 67</td>
<td>216 x 91 x 127</td>
<td>REF. : 14335/0401</td>
<td>REF. : 14335/0398</td>
</tr>
</tbody>
</table>

Shorter, custom made versions are available.

Technical features

- Height of refrigerated area: 500 mm (340 mm below acrylic cover in the front)
- Optionally with hydraulic height adjustment
- Digital temperature controller
- 4 power sockets in the working area
- Two 50 mm side openings (one on each side) for cables
- Power supply: 115 V/60 Hz or 230 V/50 Hz
- Power consumption: approx. 450 W
CoolingCastle®

The Cooling Castle® is the ergonomic and space-saving solution for processing semen at +5°C.

Although having a small footprint, it offers anything needed. The inner chamber (1280 x 650 mm, W x D) is equipped with power sockets and a network socket, bright LED light, a shelf at the rear panel for equipment and provides enough room for a filling machine (MPP Quattro or MPP Uno) and loading the freezing ramps. The transparent double-wing flap door allows monitoring the processes inside the cooling chamber all the time.

Even if the door is kept open, the Cooling Castle® guarantees +5°C in the chamber (at room temperature). A curtain of cooled air minimizes air transfer into the inner chamber. UV irradiation of the cooled air flow has a germ reducing effect. Furthermore, the CoolingCastle® has an automatic condensation water evaporation function.

Technical features
- Outer dimensions: 1400 x 860 / 950 x 1752 mm (W x D x H)
- Electrical condensation water evaporation
- Ports and outlets for MPP Uno or MPP Quattro
- LED lighting
- Power supply: 230 V/50 Hz or 110 V/60 Hz
- Power consumption: approx. 810W

CoolingCastle®
230 V/50 Hz
REF. : 14335/0422

CoolingCastle®
110 V/60 Hz
REF. : 14335/0421

Your benefits
- Small footprint (passes ordinary doors) allows use in small labs
- Ergonomic working
- Enough space for a MPP Uno or MPP Quattro and the loading of freezing ramps
- Extra storage space below working area
- Network compatibility
- UV irradiation of circulating air for germ reduction
- Easy monitoring of machines due to transparent door
- Automatic condensation water evaporation
- Continues work after power failure
COMBISYSTEM

CombiSystem

For optimal efficiency in the bull semen laboratory: the combination of the filling and sealing machine MPP Quattro or MPP Uno with the MiniJet printer.

Your benefits

- Perfect automatic integration of semen processing: filling, sealing and printing in one system and one step
- Convertable from 0.5 ml to 0.25 ml straws and vice versa, without changing any part
- Fully electronic control of all components
- Semen level control and automatic stop of straw supply at the end of the ejaculate
- Both devices, the filling and sealing machine MPP Quattro and the MiniJet printer may also be separated and operated individually
- Includes software with bull data files, can be combined with IDA laboratory software (see page 5)
- Requires no extra control unit, only standard PC (included)

CombiSystem - composed of MPP Quattro and MiniJet
capacity 15000 straws/hour
110 V/50-60 Hz or 230 V/50-60 Hz
REF. : 13018/0002

CombiSystem - composed of MPP Uno and MiniJet
capacity 4000 straws/hour
110 V/50 Hz or 230 V/50 Hz
REF. : 13017/0002
AUTOMATIC FILLING & SEALING OF STRAWS

MPP Quattro

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

Your benefits

- Filling of 1 to 4 straws at a time — freely selectable by the operator.
- Modern touch-screen monitor for software control and display. Easy to operate, with colour coded display. Continuous display of number of filled straws, machine status, straw size.
- Fast conversion between 0.25 and 0.5 cc straws and vice versa (1-2 minutes), touch-screen guided.
- High hygienic and safety conditions due to completely closed filling and sealing area.
- Optimal control by the operator: processing of 4 straws at a time can easily be observed.
- Quick preparation for a new ejaculate: Blocks of filling and suction needle allow very quick exchange of needles.

- Semen-saving option: When ejaculate is almost finished, active filling needles are automatically reduced from 4 to 1 and residual semen from inactive needles runs back into reservoir.
- Machine can be operated in cold room or cabinet or at room temperature as stand-alone or combined with MiniJet printer.
- Compact sealing unit: very quick and easy exchange of sealing unit greatly improves service capabilities and options.

Practically no semen is wasted and the ejaculate is used up to the very last drop.

Technical features

- Hopper capacity: 2200 mini straws (0.25 ml) or 1300 medium straws (0.5 ml)
- Capacity: 15000 straws/hour
- Latest PLC microprocessor control technology
- Vacuum unit with integrated reservoir and automatic readjustment function. Vacuum level is displayed and can be easily modified via buttons.
- Powerful, long lasting and easy changeable ultrasound sealing unit with worldwide service network
- Can be included into the Minitube CombiSystem with the latest MiniJet printer model Leibinger
- Power supply: 110 V/60 Hz or 230 V/50-60 Hz

MPP Quattro, complete  REF.  : 13018/0000

Fixing unit for filling and suction blocks, stackable, stainless steel  REF.  : 13017/0050

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

Accessories

Filling block with 4 nozzles
for 0.25 ml straws  REF.  : 13018/0012
for 0.5 ml straws  REF.  : 13018/0017

Suction block with 4 nozzles
for 0.25 ml straws  REF.  : 13018/0022
for 0.5 ml straws  REF.  : 13018/0027

Staw hopper for MPP Quattro and MPP Uno,
for 0.25 and 0.5 cc straws  REF.  : 13018/0006

Disposable semen cone, 100/bag  REF.  : 13018/0100
MPP Uno

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

Your benefits

- The MPP Uno seals and fills 1 straw per cycle. Therefore the machine is ideal for handling small volumes of valuable ejaculates. The sealing is performed by ultrasound.

- Conversion between 0.25 ml straws and 0.5 ml straws without exchanging any parts within only a few minutes. The exchangeable hoppers hold either 2200 straws of 0.25 ml or about 1300 straws of 0.5 ml.

- A very compact device which requires minor space. The vacuum pump and the pressure controller are integrated in the device. The ultrasonic generator is integrated in an external casing that can be mounted at a distance of up to 2.5 m. ON/OFF switch directly on the machine.

- The filling and sealing area is completely closed: Best hygienic and safety conditions are therefore fully guaranteed. Optimal control by the user: the filling process is performed right in front of the user, who can easily observe the procedure.

Technical features

- Capacity approx. 4000 straws/hour
- No wearing parts. Very fast and easy cleaning.
- Machine dimensions: 370 x 460 x 320 mm (W x D x H) + ultrasound generator
- Power supply: 110 V/60 Hz or 230 V/50 Hz

Accessories

Straw hopper for MPP Quattro and MPP Uno, for 0.25 and 0.5 cc straws  REF. : 13018/0006
Filling nozzle 0.25 ml  REF. : 13017/0012
Suction nozzle 0.25 ml  REF. : 13017/0022
Filling nozzle 0.5 ml  REF. : 13017/0017
Suction nozzle 0.5 ml  REF. : 13017/0027
Washer, 5000/bag  REF. : 13021/3001
Filling and suction tubing, 100/bag  REF. : 13021/3800
MiniJet

Professional printing system for 0.25 ml and 0.5 ml straws.

Your benefits

- Combines excellent print quality with high print speed
- Suitable for all types of semen straws
- Minitube software with clear and user-friendly menu navigation
- Exchangeable hopper fits both straw sizes
- Easily adjustable print head position
- Change of the transport belt without tools
- Remote maintenance via teleservice possible
- No gear pump is used for generating the pressure in the ink circuit, therefore no abraded particles are ageing the ink
- The ink nozzle is automatically closed when the printer is switched off, thus avoiding its blockage caused by dried ink. Steady once per day tuning of ink viscosity guarantees optimal start-up conditions
- Low operational cost: the ink tank is only refilled instead of replacing it altogether
- Ink run time is not limited by electronic timer
- The inkjet printer is equipped with a touch screen for direct input of system commands and display for diagnostics
- Microsoft Access Database for easy data conversion to and from customer specific databases
- Interface to IDA laboratory software

Each system consists of

- Inkjet printing unit Leibinger, state of the art computer with accessories and Minitube software
- Transport unit for straws with exchangeable hopper
- Control unit for electronics and power supply of the transport unit

Technical features

- Capacity: approx. 20000 straws per hour
- Character size 1.4 mm to 5 mm
- Printing of barcodes and logos
- Bold print option
- Immediately non-abrasive print
- Adaptable for the CombiSystem
- Power supply: 110 V/60 Hz or 230 V/50–60 Hz

MiniJet with Inkjet System Leibinger, complete

Ink, 950 ml

Solvent, 950 ml

The MiniJet printer can be combined with the filling and sealing machine MPP Quattro or MPP Uno to a CombiSystem.
**EasyCoder**

**Printing of straws without ink.**

**Your benefits**

- Unmatched neat and clear printing on 0.5 and 0.25 ml straws
- Up to 3 lines with a total of about 200 characters, even on Ministraws
- Printing of barcode signs, logos and specific characters
- Immediately non-abrasive print
- Control via PC by a clear and user-friendly Minitube software
- Sequential numbers can be printed on straws

- Adjustable character fonts and graduations from micro to macro
- Freely eligible number of lines and of printing positions
- Clean and odourless working without ink and without solvents
- Easy handling, little maintenance required
- Easy and quick conversion between different straw sizes

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

**Technical features**

- Thermal transfer printer with automatic straw supply
- Output: 3600 straws per hour
- Windows based Minitüb software with data base for storing names and numbers
- Data transfer by serial port or USB adapter (included)
- Individual composition of printing lines possible, different configurations can be stored in memory
- 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

**Accessory**

**Colour ribbon**  
for straw printer EasyCoder, black  
**REF.** : 13038/0010
THE MINITUBE SYSTEM

The Minitube straw

Minitube straws can be used in many ways: for frozen semen preservation as well as for the production of fresh semen. During the last years, the use of fresh semen in the bovine AI industry has increased and become more important, especially as a tool to meet the high demand for top bulls. The original Minitube straw with two sealing balls provides fundamental advantages for both preservation methods:

- Gas-tight and hygienic seal of both straw ends with sealing balls
- No waste of semen due to sperm trapped in the cotton plug
- Reduced number of semen cells per dose
- Maximum use and maximum profit of top bulls

**Minitube straw, 65 mm/0.3 ml, clear**  REF. : 13401/0065

ASP 65R – Filling & sealing machine for Minitubes

**Technical features**

- Fully automatic packaging of bull semen in Minitubes
- Use of only one sterilizable filling nozzle with hose and sinker per ejaculate
- Capacity: approx. 8000 straws per hour
- Power supply: 230 V/50 Hz

**ASP 65R – Filling & sealing machine for Minitubes**  REF. : 13001/0165

**Accessories**

- **Filling nozzle for ASP,** with silicone tubing and sinker  REF. : 13001/1010
- **Suction nozzle for ASP**  REF. : 13001/1020
- **Washer for ASP filling and suction nozzle,** 1000/package  REF. : 13001/1000
- **Nitrogen gas module for liquid semen production.** Flushes each Minitube with nitrogen gas immediately before filling, thus ensuring that the bubble within the filled and sealed semen straw contains only nitrogen. Increases longevity of liquid semen providing anaerobic conditions.  REF. : 13001/2000
- **Silicone hose 2 x 1 mm,** 25m / bag  REF. : 5013001/0180
- **Sealing ball, glass, light blue** diameter 2.70 mm, 50,000/jar  REF. : 13400/0070
Semiautomatic system SFS 133

For 0.25 ml and 0.5 ml straws

Semiautomatic Filling & Sealing Machine SFS 133, with vacuum bottle, filling and suction head for 0.5 ml straws
for 0.5 ml straws \( \text{REF. : 13133/0133} \)
for 0.25 ml straws \( \text{REF. : 13133/0135} \)

Low density vacuum pump, 30–60 Hg, with manometer and valve
230 V/50 Hz \( \text{REF. : 13133/0267} \)
115 V/50 Hz \( \text{REF. : 13133/0268} \)

Cartridge loading device with loading block and 10 cartridges for 36 straws
0.5 ml \( \text{REF. : 13133/0005} \)
0.25 ml \( \text{REF. : 13133/0025} \)

Technical features

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

Accessories

Washer for all filling and suction nozzles, 5000/bag \( \text{REF. : 13021/3001} \)
Silicone tubing for SFS, transparent, 3 x 1 mm \( \text{REF. : 13133/3500} \)
Filling head with 6 nozzles for 0.5 and 0.25 ml straws \( \text{REF. : 13133/1000} \)
Suction head with 6 nozzles for 0.5 and 0.25 ml straws \( \text{REF. : 13133/2000} \)
Metal sealing ball for 0.25 ml straws \( \text{REF. : 13400/9970} \)
Glass sealing ball for 0.25 ml straws, available in different colours \( \text{REF. : 13400/9971} \)

AHDR/HDR printers

For 0.5 or 0.25 ml straws and Minitubes, with counter
Capacity: approx. 5000 straws/hour

AHDR, automatic \( \text{REF. : 13142/1000} \)
HDR (without motor) \( \text{REF. : 13140/0000} \)

Set of alpha-numerical characters
for 0.5 ml straws and Minitubes \( \text{REF. : 13052/0000} \)
for 0.25 ml straws \( \text{REF. : 13052/0010} \)

Printing ink ER, 40 ml, black \( \text{REF. : 13056/0033} \)

Doublestick tape \( \text{REF. : 13050/0010} \)
Mini straw and Medium straw

For over 25 years, the Minitube 0.25 ml and 0.5 ml semen straws have been used worldwide as a standard for the freezing of semen from bulls, stallions, boars, and many other species. Minitube’s quality control process, production techniques, and material selection ensure for a reliable product that consistently exceeds industry standards. Minitube straws are available in a variety of transparent colours.

EcoStraw

EcoStraws feature a wick with a shorter inner wick section that absorbs 3 to 4% fewer sperm than the corresponding symmetrical wick of standard semen straws. They are ideal for overnight equilibration of semen at refrigerated temperatures.

Fresh semen straw

Fresh semen straws are designed to process and store fresh/chilled semen at refrigerated temperatures. The wick has a special powder which does not swell and absorbs less semen.

Fresh semen straws and EcoStraws are used in exactly the same way as standard semen straws:

- Identical processes for filling
- Identical processes for sealing
- Identical processes for printing
- Identical processes for insemination

Your benefits

- Better utilization of available sperm per ejaculate because fewer sperm are lost in the wick
- Yield a larger number of semen straws per ejaculate
- Better use of valuable genetics without adding additional cost
- Ideal for overnight equilibration

Your benefits

- Especially designed to meet the needs for semen storage at refrigerated temperatures
- Yield a larger number of semen straws per ejaculate
- Better use of valuable genetics without adding additional cost
- Ideal for fresh semen preservation
- Available in six different colours
<table>
<thead>
<tr>
<th>Colour</th>
<th>Mini straw 0.25 ml</th>
<th>EcoStraw 0.25 ml</th>
<th>Fresh semen straw 0.25 ml</th>
<th>Medium straw 0.5 ml</th>
<th>EcoStraw 0.5 ml</th>
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<td>Red – transparent</td>
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<td>REF.: ---</td>
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</tbody>
</table>
TurboFreezer L

The innovation in straw freezing technology: directed, horizontal liquid nitrogen vapour flow provides homogeneous and superior freezing results.

Your benefits

- Standardised semen freezing curves independent of straw position
- Uniform post-thaw quality of the semen
- User defined freezing programs
- Ergonomic and easy handling of racks and straws in ample freezing chamber
- High throughput provides outstanding economy

Benefits over traditional freezing machines for semen

Semen freezing in conventional freezers suffers from unpredictable cold and warm spots distributed throughout the freezing chamber.

- The TurboFreezer L provides a uniform chamber temperature due to its aerodynamic design and the unidirectional horizontal gas flow.
- The freezing pattern of each single straw is precisely controlled by instant removal of crystallization energy.
- A homogenous gas flow is provided over the complete height and length of the stacks of straw racks.
**BULL SEMEN FREEZING**

**Technical features**

- Highly insulated body with stainless steel cover
- Quadruple LN₂ injection ports
- Conditioning plenum separated from the freezing chamber
- 2 fan blocks with 4 fans each for homogenous LN₂ dispersion and precision air flow throughout the chamber
- Programmable controller
- 2 temperature sensors (1 chamber sensor, 1 sample sensor)
- Electric connection: 220 V/50 Hz (220 V/60 Hz optional)
- Outer dimensions: 222 x 132 x 86 cm (W x H x D)
- Chamber size: 145 x 41 x 32 cm (W x H x D)
- Required LN₂ pressure: 2.5 bar
- Capacity:
  - 30 racks of 175 0.25 ml straws (total: 5250 straws)
  - 30 racks of 100 0.5 ml straws (total: 3000 straws)

**Product features**

- Dual operation lid: inserted sliding covers for low impact in terms of cold loss when handling straws and racks after freezing. Complete cover opens supported by air pressure cylinder.
- Ample space available to unload racks and transfer straws into goblets inside the freezing chamber
- Subsequent freezing cycles can start immediately after the previous freezing

**TurboFreezer L**  
**Pressure container, 189 litre**

Comes with goblet holding device for 4 goblets, straw pliers and holding box for straw pliers.

**TurboFreezer M**

The smaller version of Minitube’s TurboFreezer also provides directional, even gas flow throughout the whole chamber and therefor uniquely uniform freezing patterns.

**Technical features**

- Straw capacity: 15 racks
  - 1500 straws 0.5 ml
  - 2625 straws 0.25 ml

- Outer dimensions (without monitor and controller):
  153 x 132 x 86 cm (W x H x D)

- Chamber - inner dimensions:
  78 x 41 x 32 cm (W x H x D)

- Electric connection: 220 V/50 Hz

**TurboFreezer M**

**REF. : 16810/0000**
BULL SEMEN FREEZING

MT Freezer 2.0
Automatic freezer for bull semen made of stainless steel. Forced air ventilation through fans. Programmable start and end temperature.

Technical features
- Capacity: 12 racks
- Outer dimensions 112 x 88 x 105 cm (W x H x D)
- Chamber dimensions: 76 x 64 x 30 cm (W x H x D)
- Electronic temperature control, digital temperature display
- Temperature range: +5°C to -140°C
- Freezing time: 8 min (10 min for 0.5 ml straws)
- Ø LN-consumption: approx. 8.5 l per freezing cycle
- Power supply: 110 V/60 Hz or 230 V/50 Hz

MT Freezer 2.0
for 0.5 bar liquid nitrogen containers ref. : 16813/0000
for 1.5 bar liquid nitrogen containers ref. : 16813/0015

Liquid nitrogen container
pressurized to 0.5 bar, capacity 60 L ref. : 16820/1900
pressurized to 1.5 bar, capacity 120 L ref. : 16150/0120

Your benefits
- Economic: low LN consumption and subsequent freezing cycles can start immediately after the previous freezing cycle
- Superior insulation
- Break- and scratch-resistant lid

Accessories for all freezers

Liquid nitrogen connecting hose
Length 2.0 m ref. : 16812/0200
Length 1.5 m ref. : 16812/0150

Freezing rack Turbo
for 175 x 0.25 ml straws ref. : 15040/0175
for 100 x 0.5 ml straws ref. : 15040/0100

Loading and counting block for freezing rack Turbo
for 175 x 0.25 ml straws ref. : 15041/0175
for 100 x 0.5 ml straws ref. : 15041/0100

Straw pliers for removal of frozen straws ref. : 16811/0100

Stainless steel funnel for 65 mm goblets ref. : 15004/0402

Racklight, LED illuminated box for straw racks, for control of filling level of straws ref. : 13017/0100
Storage systems for straws

Goblets

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<td>65 mm (2)</td>
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</table>

Goblet canes, (3)

for 2 x 10 mm Goblets  REF. : 16965/6000
for 2 x 13 mm Goblets  REF. : 16965/6013

Marking label for goblet canes, different colours  REF. : 13422/00xx

Divider for goblets, 100/bag (4)
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

Stainless steel funnel for 65 mm goblets (5)  REF. : 15004/0402

Cassettes

Short and long triangular cassettes (6) for 20/40 Minitubes or 10/20 straws 0.5 ml or 28/56 straws 0.25 ml

Short and long flat cassettes (7) for 6/12 Minitubes or 3/6 straws 0.5 ml or 6/12 straws 0.25 ml

Triangular cassette

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Flat cassette

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<tr>
<td>Beige</td>
<td>16980/1206</td>
<td>16980/0606</td>
</tr>
</tbody>
</table>
QuickLock Al guns

- Easy fixation of sheaths, no ring or twisting needed
- Fast removal of the sheath
- Universal for all types of straws and sheaths (incl. 0.25 and 0.5 ml)
- All parts made of sterilisable plastic or stainless steel
- No loose parts, plunger cannot slide out
- Provide security and accuracy during AI
- Identification with different coloured stylets
- After insemination, the straw is removed from the sheath for better visualisation of the straw information

QuickLock Classic
Sheath fixation and release very easy by just pressing a knob

QuickLock Classic, white REF. : 17025/0000
QuickLock Classic, red REF. : 17025/0003
QuickLock Classic, blue REF. : 17025/0005
QuickLock Classic, yellow REF. : 17025/0008
QuickLock Classic, green REF. : 17025/0009

QuickLock 2000

- Ergonomic design
- Only 1 cm of the sheath length is required for fixation

QuickLock 2000, white REF. : 17026/0000
QuickLock 2000, red REF. : 17026/0003
QuickLock 2000, blue REF. : 17026/0005
QuickLock 2000, yellow REF. : 17026/0008
QuickLock 2000, green REF. : 17026/0009

QuickLock ERGO

- Ideal for older cows due to greater usable length
- Smallest ergonomic handle available
- Easiest gun as far as cleaning is concerned

QuickLock ERGO, white REF. : 17024/0000
QuickLock ERGO, red REF. : 17024/0003
QuickLock ERGO, blue REF. : 17024/0005
QuickLock ERGO, yellow REF. : 17024/0008
QuickLock ERGO, green REF. : 17024/0009

Universal sheaths

- Suitable for all types of semen straws
- Absolutely tight fit with all types of straws
- Gentle insemination due to a soft shape of the tip
- 50/bag, 1000/box
- Transparent adapters for better visual control of straw position

Universal sheath split (transparent-green) REF. : 17007/0001
Universal sheath non-split (transparent-blue) REF. : 17007/0000
Hygienic sheaths, roll with 80 units REF. : 17028/0100
BOVINE ARTIFICIAL 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)

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Reference</th>
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<td>17044/0037</td>
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<td>38°C</td>
<td>17044/0038</td>
</tr>
<tr>
<td>50°C</td>
<td>17044/0050</td>
</tr>
</tbody>
</table>

Accessories

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

Insemination kit

Insemination kit complete: heavy duty ABS case, electronic thawing unit MT 30/54, QuickLock 2000, 100 Universal sheaths, ReproJelly lubricant, Varikon speculum, 1 box AI gloves, MiniCutter, tweezers and clamp

REF. : 17050/0060

Components also available individually

- Insemination case  REF. : 17050/0001
- Insemination glove, 100/box  REF. : 17080/0015
- Varikon speculum  REF. : 17064/0380
- Straw tweezers, angular shape  REF. : 17060/0000
- ReproJelly, 100 ml  REF. : 11907/0100
- MiniCutter  REF. : 17062/0010
- Clamp  REF. : 17063/0000

Not included in kit:

- Transformer for thawing unit 12 V 110 V 220V  REF.  : 17165/1395

MontaPlus - Heat detection patch

MontaPlus is a “rub-off surface” based heat indicator system for cattle. The size of the coloured area of the patch which has been applied to the cattle back indicates the number of times, the cow/heifer has been mounted.

<table>
<thead>
<tr>
<th>Color</th>
<th>Reference</th>
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<tr>
<td>blue</td>
<td>23300/0005</td>
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<tr>
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</tbody>
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www.minitube.com
MiniCutter

Your benefits

- Ergonomic shape
- Precise cut of 0.25 and 0.5 ml straws
- Easy to keep clean

MiniCutter for straws  REF. : 17062/0010

Deep I.U. insemination

- Long, flexible sheath and mandrin for insemination deep inside the uterine horn
- Metal tip of the sheath for easy palpation and exact fit with the straw
- Extra introduction mandrin for penetrating the cervix
- Also suitable for embryo transfer

DIUI bovine inseminator set, consisting of flexible A.I. mandrin, stiff introduction mandrin, finger support and fixation rings

DIUI bovine sheath, split, for 0.25 ml straws,
10/package  REF. : 17015/0650

QuickLock heater 2.0

(Not available in the US)
Battery operated, with carrying strap.
Also available: ET devices heater V2.0 (+25°C), Ref.: 17028/0225

Your benefits

- AI guns are transported at a constant temperature
- Thawed semen will not lose temperature in pre-warmed QuickLock AI gun
- Very robust material, easy to clean bag can be washed in a washing machine
- Strap allows different ways of carrying the bag
- Rechargeable battery, works for approx. 8 hours
- Temperature setting: +35°C, other values optional

QuickLock heater 2.0 (+35°C)  REF. : 17028/0210

Accessories

Charger for recharging of battery set:
Charger for wall socket 100-240 VAC, 50/60 Hz  REF.: 17028/0220
Charger for car, 12 V/24 V  REF.: 17028/0221

Disposable plastic bag
to protect the inside, 100/bag  REF.: 17028/0201

Option:
Additional rechargeable battery set  REF.: 17028/0219
QuickLock heater 2.0, set to 25°C for ET  REF.: 17028/0225
DIAGNOSTICS

MiniReader

The MiniReader is an accurate, reliable and affordable device to read and determine the results of Minitube’s ELISA (= Enzyme Linked Immunosorbent Assay) based progesterone test.

Your benefits

• The colour change of the sample is automatically detected and converted into ng/ml Progesterone.
• ELISA test kits contain all reagents and consumables needed to perform the analysis.
• Performing the ELISA is straightforward, with or without the means of the PipetButler.
• Manual pipetting of reagents is not needed when the PipetButler is used.
• The Progesterone measurement is based on a calibration curve and is adjusted by three standards.

PipetButler

The PipetButler automates sample preparation for the ELISA test and facilitates routine work in the lab. The test kit reagents are supplied individually and loaded easily into the PipetButler. The ELISA-reagents are automatically added to the serum or milk sample.

Your benefits

• The PipetButler is equipped with a heated well tray, set to +37°C, which is the optimum temperature for ELISA reactions.
• Automatic addition of the reagents avoids handling errors.
• A light at the PipetButler indicates completion of processing steps.

Test kits

Test kit for measuring progesterone in bovine serum, for 24-60 samples, for manual pipetting  REF. : 21900/1310

Test kit for measuring progesterone in bovine milk, for 24-60 samples, for manual pipetting  REF. : 21900/1320

Test kit for measuring progesterone in bovine serum, for 24-60 samples, for use with PipetButler  REF. : 21900/1410

Test kit for measuring progesterone in bovine milk, for 24-60 samples, for use with PipetButler  REF. : 21900/1510
**Ultrasound device Minitube 2.0**

Portable ultrasound scanner for pregnancy detection. Suited for transrectal pregnancy check in cows. With rechargeable battery, power supply carry strap, couplant and heavy duty case. 100-240 V

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**Your benefits**

- Compact and light weight
- Portable, very robust, battery operated

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**Technical details**

- Monitor size: 7” TFT-LCD
- Display modes: B, B+B, B+M, M, 4B
- Image gray scale: 256 levels
- Battery capacity: 3000 mAh/ 7.4 V
- Weight: 900 g
- Overall Size: 216 x 147 x 27 mm (LxWxH)

---

**Accessories**

- **Convex Probe 3.5 MHz**
  for examinations in swine and small ruminants  
  **REF.** : 23500/1105

- **Linear Probe 6.5 MHz**
  for rectal pregnancy detection in cattle  
  **REF.** : 23500/1106

---

**Cytology brush**

Disposable set for collecting endometrial cells for cytology.

**CytoBrush for bovine**, single packed, sterile, single use, delivered with sanitary sheet  
**REF.** : 17075/0010

---

**EndoControl sampler**

Effective and early detection of endometritis by evaluation of vaginal mucus.

**EndoContol Sampler**, single packed, sterile, single use, delivered with sanitary sheet  
**REF.** : 17075/0025
EMBRYO MEDIA

Media for bovine embryo transfer

- 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

Recovery media

**BoviFlush**
- Solution containing Pyruvate or BSA and antibiotic
- No additives required
- 3-way port configuration

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<td>With BSA, 1 litre</td>
<td>: 19982/6001</td>
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<td>With PVA, 1 litre</td>
<td>: 19982/6011</td>
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<tr>
<td>With BSA, 2 litre</td>
<td>: 19982/6002</td>
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<tr>
<td>With PVA, 2 litre</td>
<td>: 19982/6012</td>
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</table>

Holding medium

A multiple application medium for:
- Holding embryos at room temperature in ambient conditions
- Transporting embryos
- Washing and rinsing embryos
- Loading embryos for transfer to recipient animal

**BoviHold**
Solution containing Pyruvate, BSA and Antibiotic, 20 ml

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Cryopreservation medium

Ethylen-glycol medium for conventional, slow freezing of embryos and direct transfer after thawing. Contains a solution with D-glucose, Na-pyruvate, BSA and antibiotic.

**BoviFreeze**
5 ml

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EMBRYO COLLECTION

Flushing catheters

Silicone catheters, 650 mm length (26’’), 20-30 ml inflation cuff, high-volume recovery ports, Luer activated valve. Gamma irradiated, 1/bag

2 way, Luer Lock

CH 12  REF. : 19005/0100
CH 16  REF. : 19005/0102
CH 18  REF. : 19005/0103
CH 20  REF. : 19005/0104

2 way, Foley end

CH 12  REF. : 19005/0220
CH 16  REF. : 19005/0221
CH 18  REF. : 19005/0222
CH 20  REF. : 19005/0223

3 way, Foley end

CH 16  REF. : 19005/0230
CH 18  REF. : 19005/0231
CH 20  REF. : 19005/0232

Lampeter stainless steel tip catheter with 8 ports, Luer activated valve, 1/bag

CH 15  REF. : 19006/0015
CH 18  REF. : 19006/0017

Neustadt Aisch/Rüsch catheter with 4 ports, air pressure control bulb, 2/bag

CH 15  REF. : 19004/0015
CH 18  REF. : 19004/0018

Mandrin for flushing catheter

CH 12  REF. : 19007/0012
CH 15/16  REF. : 19007/0016
CH 18/20  REF. : 19007/0018

Cervix dilator, all stainless steel, fully autoclavable. Facilitates introduction of embryo collection catheter

REF. : 19001/1000
Filters for embryo collection

Your benefits
- All-in-one filter and search dish
- 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
- Excess fluid is controlled and removed through outlet tubing with attached thumb clamp
- Connection to all types of Y-tubing is possible

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.

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.

EmGuard filter  REF. : 19010/1000

Flushing tubings
Disposable Y-junction tubing with clamps, to be used in combination with any catheter and inline filter. Sterilised (gamma irradiated), 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
LAB EQUIPMENT FOR EMBRYO TRANSFER

**Stereo microscopes**

**Stereo zoom microscope**. Mirror for improved visualisation of zona pellucida, total magnification from 10x to 70x, eye-pieces 10x, 115-230V/50-60Hz

*REF.* : 12014/0000

**Stereo zoom microscope Optika SZM-LED1**, total magnification from 7x to 45x, eye-pieces 10x, with vertical and transmitted LED illumination, working distance: 100 mm, 115-230 V/50-60 Hz

*REF.* : 12015/0202

Many models are also available as trinocular versions. Please contact us for further information.

**Temperature control**

**Heated stage** for stereo microscope

*REF.* : 12055/0003

**Control unit HT 50** for heated stage

110 V / 60 Hz or 230 V / 50 Hz

*REF.* : 12055/0050

**Bead bath**

Temperature controlled incubator for sample tubes or straws of different sizes (up to 15 mm diameter), with steel balls inside for secure fixation. Temperature range between ambient and +55°C. Requires a control unit HT 50 S, HT 300 or HT 400 W. Usable height: 135 mm

*REF.* : 12055/5000

**Controller HT 50 S**

110 V/60 Hz or 230 V/50 Hz

*REF.* : 12055/0205

**Laboratory heating plate**

Heated Area: 470 x 260 mm. Preset temperature (37°C), with integrated control unit and external power supply.

*REF.* : 12055/0010
Freeze control embryo freezer

Freeze Control embryo freezing systems are designed for practitioners. They use liquid nitrogen as cooling medium, and heat control for regulating temperature. Each system consists of a cryobath, a controller and a carry case. Capacity 23 x 0.5 ml or 46 x 0.25 ml straws.

With controller CL 2200, 8 preinstalled programs, 1.5 litre cryobath, external power supply

REF. : 19406/2200

With controller CL 5500, 8 preinstalled programs, 1.5 litre cryobath, inbuilt battery power pack

REF. : 19406/5500

With controller CL 8800, 16 preinstalled programs, 3.8 litre cryobath, external power supply

REF. : 19406/8800

External power pack for CL 2200/CL 8800

REF. : 19407/0000

Vitrification unit

For Vitrification in OPS straws or conventional straws.

Unit consists of:
- Styrofoam box with stainless steel vitrification bath
- Material for vitrification
- DVD with instructions for working with OPS straws

Set for vitrifying embryos or oocytes in straws

REF. : 19500/2000
EMBRYO HANDLING

**Micropipettor**: 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]

**Steripette** for embryo handling, 55 mm, individually packed, sterilised, 50/package, for use with 1 ml insulin syringe  [REF. : 19025/0050]

**Glass pipette for embryo handling**, silicone treated (240°C), 100/package.  [REF. : 19026/0100]

**Adapter for glass pipette** for connection with Luer syringe, sterilised  [REF. : 19026/1100]

**Embryo culture dish** with lid, sterilised, 5 wells, rounded well edges, mouse embryo batch tested  [REF. : 19021/0001]

**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]
- diameter 94 mm  [REF. : 19020/2094]

**Embryo transport vial**, 5 ml, with snap cap and round bottom, sterilised, single packed, 500/package  [REF. : 19180/5006]

**0.25 ml straw**, crystal clear, gamma irradiated, 5/package  [REF. : 19039/0005]

**0.25 ml straw**, clear, gamma irradiated, 10/package, without seal
- Clear  [REF. : 19042/0010]
- Yellow (direct transfer)  [REF. : 19042/1010]
- also available with sealing ball  [REF. : 19041/0010]
EMBRYO HANDLING

0.25 ml straw, clear, gamma irradiated, 10/package, with ID rod seal
White  
Beige  
Light yellow  
Light blue  
Red  
Pink  
Grey  
Light green  
Dark yellow  

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

0.25 ml straw 90 mm, clear, gamma irradiated, 10/package
white, with ID rod, many colours available  
with sealing ball  

ET ID rod, for sealing and identification of 0.25 ml straws, 100/package
White  
Beige  
Light yellow  
Light blue  
Red  
Pink  
Grey  
Light green  
Dark yellow  

Pen for marking, very fine, alcohol permanent
Black  

Lab equipment

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

Straw label printer, prints labels suitable for 0.25/0.5 ml straws and for ID rods. Battery operated and with optional 110/220V connection. Thermo transfer print, resolution 300 dpi. All-in-one cassette with 140 pcs LN₂-resistant labels for 0,5 straws or ET ID rod included.

Accessories

Cassette with 140 labels for 0.25 ml straws  
Cassette with 140 labels for 0.5 ml straws  

www.minitube.com
EMBRYO AND OOCYTE TRANSPORT

CryoSealer

Manual sealer using ultrasound technology. Can be used for 0.25, 0.5 ml straws and 0.3 ml CBS™ cryobiostraws. Ultrasound welding facilitates a perfect and uniform seal of each straw. Power supply: 100V-240V/60Hz

CryoSealer  REF. : 13135/0000

Portable incubators

For a safe transport of embryos and oocytes at a constant temperature.

Your benefits

- Constant temperature distribution due to the use of metal balls in the device
- Easy and secure fixation of vials and straws
- Absolutely dry and hygienic environment

Product features

- Customized temperature setting
- Electronic temperature control
- Temperature precision: +/- 0.5°C
- Power supply: 12 V DC (car battery) or rechargeable dry battery

Portable ET incubator with electronic temperature control  REF. : 19180/0001

Portable incubator for transport of embryos/oocytes with digital temperature display, temperature range freely selectable between ambient and 40°C (3)  REF. : 19180/0002

Embryo transport kit

Your benefits

- Heavy duty box — impact resistant
- Water resistant surfaces
- Pressure relief valve adjusts for rapid altitude changes during flights
- Electrical components isolated in metal enclosure

Technical specifications

- Outer dimensions: 43 x 24 x 34 cm
- Capacity of battery: 30 h
- Weight of kit: approx. 10 kg

Transport box with dry battery and battery charger for portable incubator holds temperature for 30 hours during transport.  REF. : 19180/2101

Accessories

Rechargeable dry battery, 12 V/7.5 Ah, capacity at +25°C: approx. 12 h.  REF. : 19180/1210
Charger for battery  REF. : 19180/1200
Power supply unit for ET transport unit, 230 V  REF. : 17165/1395
Plastic vial 5 ml with snap cap  REF. : 19180/5006
Transfit sheaths and stylets

**Transfit Lateral**, sheath with metal tip and side opening, to be used with 0.25 straws, sterilised, 5/package

**Transfer stylet** to be used with disposable Transfit Lateral sheath

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**Stainless steel ET instrument MT**

- Best choice for heifers where cervix is hard to pass
- Sterilizable transfer instrument to be used without sheaths, with removable tip made of stainless steel, 1 side outlet, ring for marking opening position
- Disposable tip for transfer instrument MT made of plastic, sterilised, individually wrapped, 100/box

**Transfer instrument**

**Stainless steel tip**

**Disposable tip**

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**ET devices heater**

**ET devices heater V2.0 (+25°C)**

Please refer to page 31 for detailed information.

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**Sanitary sheaths**

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

**Hygienic sheath**, roll with 80 units

**Sanisheath**, 25/package

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Laminar flow cabinet

Technical details

- Vertical air flow
- Appropriate for biotechnology and microbiology
- Outside dimensions: 1016 x 679 x 1253 mm (W x D x H)
- Inside: 950 x 530 x 646 mm (W x D x H)
- Without stand and accessories, 230 V/50 Hz

Laminar flow cabinet
vertical, without stand and accessories

REF.: 19390/1200

Eye level control panel

- Gives view of all cabinet functions from both standing or seated position
- Functions for fan speeds, resetable hour counter, lighting level, UV light timer and air flow alarm indication
- Service program access via key pad code

Microprocessor control

- Precise, direct fan speed settings, control & measurement giving low noise levels.
- Airflow control for down flow air measurement with precise alarm settings.
- Energy saving reduced speed facility for fast, safe start up and for maintaining cabinet integrity whilst cabinet is unattended.
- Automatic start up/shut down via time setting.

Your benefits

- Noise level below 52 dB(A) at a front opening of 350 mm
- Equal air distribution due to laminator technology
- Low air velocity 0.35 m/s +/- 10 %
- Digital controlled triple blower system
- High ease of use and maximum safety

Optimal operator comfort

- Angled front window that gives a correct ergonomic working position.
- Side windows and glare free rear wall for ultimate visibility & comfort.
- Diffused laminator allows shadow-free, variable light distribution in the chamber with no shadows.
- Front window options, with fixed 35 cm or 55 cm openings or motorised variable opening.
- Eye level control panel with reduced speed function, hour counter, light and alarm indication.

Compact

The cabinet can either be bench or stand mounted, with an overall depth of 679 mm it is easily located in the laboratory and moved without disassembly. The low cabinet height when on support stand of 2 meters, allows for easy location and positioning.

Support stand needs to be ordered separately
Ultrasonic device Aloka SSD ProSound2

- Realtime-computer-scanner for linear- and convex sector ultrasound
- Display mode: B, M, Dual B, B and M; 4-point dynamic focussing
- LCD-screen diagonal 26 cm
- Flash memory: up to 1000 images, DICOM, BMP, JPEG
- Fold-out alphanumeric operation panel
- Dimensions: 43 x 23 x 39 cm (W x D x H)

Convex sector probe for SSD ProSound2, 5 MHz

Ultrasonic probe holder

- Very light weight and smooth probe holder provides easy handling
- Material warms up to body temperature very quickly
- Slim design enables oocyte aspiration in young animals when combined with small probe.
- Optimised needle outlet for recommended needles (23360/1200 and 23360/1250)

Needle unit is included. The probe holder is available to suit Aloka, BCF, ECM, GE or SonoSite probe.

Aloka REF. : 23360/0600
BCF (Easi-Scan) REF. : 23400/0115
ECM (Exago) REF. : 23400/0413
GE REF. : 23400/0120
SonoSite REF. : 23400/0040

Upon request we offer the device also adapted to other probes.

The needle unit consists of:
- Clamping nut for the needle (1). Provides secure fixation of the needle in its position not allowing any dead space between the needle and the adapter.
- Disposable aspiration needle (2).
- Needle adapter (3) connects needle and tube
- Connecting tube made of stainless steel (4)
- Round shaped handles (5) allow variable positioning of bevelled tip of the needle
OPU / IVP

Tubing set

- Tube made of firm material with a coated surface.
- Oocyte-Cumulus-Complexes will not stick to the walls.
- With luer-lock fitting for a leak proof connection to the stopper assembly.
- Sterilised and individually packaged.

**Tubing set**  
**REF.**: 23360/1000

Disposable oocyte aspiration needle

- Easy and inexpensive to replace
- New needle for each OPU session
- Short and easy to manipulate
- Suited for collecting follicular fluid from individual follicles
- 100 needles/pack

**For cows (1.2 x 75 mm)**  
**REF.**: 23360/1200

**For heifers (0.9 x 70 mm)**  
**REF.**: 23360/1250

Accessory

**Stopper assembly**  
Snuggly connects to 50 ml tubes, 1/package  
**REF.**: 23360/1100

Aspiration pump for OPU

- With media warming block
- Aspiration volume adjustable up to 310 mm Hg
- Warming temperature adjustable up to +50°C
- Available in 120 V or 240 V

**Aspiration pump**  
**REF.**: 23362/0000

Minitube OPU Media

**OPU Recovery Medium, 250 ml**  
**REF.**: 19990/0080

**OPU Recovery Medium, 500 ml**  
**REF.**: 19990/0081
Minitube IVP Media

Minitube Media for in vitro production of bovine embryos are stock solutions which are always produced freshly upon demand.

Your benefits

- Media are produced after standard recipes which have been proven as perfectly suited for in vitro production of embryos in a high number of peer reviewed publications.
- Stock solutions can be stored at +4 to +8°C up to 6 months, working solutions just a few days.

TL HEPES, 50 ml
For preparation of holding medium for cumulus oocyte complexes at ambient conditions (pH-stable under room air).*

TCM 199 stock solution for oocyte maturation, 50 ml
For preparation of maturation medium*

TL stock solution for sperm cell capacitation, 100 ml
For preparation of cavitation medium for sperm cells prior to use in fertilisation.*

TL stock solution for fertilisation, 50 ml
For preparation of fertilisation medium for coincubation of oocytes and sperm cells.*

SOF stock solution, 50 ml
For preparation of culture medium for embryos* without sodium pyruvate

with sodium pyruvate

According to medium used, different supplements need to be added for final preparation:

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<thead>
<tr>
<th>Stock Media</th>
<th>OCCS / FCS</th>
<th>FSH</th>
<th>LH</th>
<th>BSA</th>
<th>Sodium pyruvate</th>
<th>Gentamicin</th>
<th>Heparin</th>
<th>Essential amino acids</th>
<th>Non-essential amino acids</th>
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<tbody>
<tr>
<td>TL HEPES</td>
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<td>TCM 199 maturation medium</td>
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<td>TL medium for sperm capacitation</td>
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<td>SOF culture medium</td>
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Media are prepared with purest water under hygienic conditions using a laminar air flow and sterile filtration.

- Working solutions can be prepared individually depending on requirements.
- Constant high quality of our media provide optimal standards for the in vitro production of embryos in your lab.
- All batches of media are certified for in vitro production based on embryo toxicity tests.
TRAINING AND EDUCATION

Minitube International proudly offers specialized product training and educational seminars in assisted reproduction technologies for customers worldwide.

Minitube regularly holds standard seminars for each of our core species providing specialized instruction in artificial insemination, embryo transfer, semen analysis and processing and more. All seminars blend theoretical knowledge and practical experience and are instructed by well-respected experts in the area of assisted animal reproduction. Seminar participants receive a participant certificate upon completion of the course. Minitube seminars are scheduled at Minitube or partner facilities. Minitube is committed to accommodating the needs of our customers and can provide education and training at our own facilities, partner facilities or at the customer site.

Minitüb cooperates closely with leading international bovine centres, universities and research centres. As a participant of one of our workshops, you can profit directly from this knowledge pool. The seminars target lab managers and staff. The main focus is to optimise the work flow during semen processing in the laboratory. Veterinarians and semen technicians gain the necessary know-how for a successful pregnancy after semen and embryo transfer.

With the courses being interactive workshops, presentations, discussions, demonstrations and practical work go hand in hand. Besides the standard seminars mentioned below, Minitüb also offers individual seminars upon request. All participants in our seminars receive valuable seminar documentation and a certificate of participation.

Training opportunities

Semen processing in the laboratory
- Lab equipment
- Semen collection
- Correct handling of ejaculates
- Semen analysis (incl. computer assisted analysis)
- Correct preparation of extender for fresh and deep frozen semen
- Semen processing
- Semen freezing
- Data management

Embryology / IVF
- Embryo analysis and handling
- Vitrification and cryopreservation
- In vitro production of embryos

AI and ET
- Heat detection
- Gynaecological examination
- Hormone treatment
- Thawing procedure
- Insemination technique
- Embryo transfer technique
- Liquid nitrogen handling
- Pregnancy detection
- Herd management
Minitüb is an ISO 9001:2008 certified company.