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

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

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

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

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

Dr. Christian Simmet
CEO
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Laboratory Management Software

The ideal production workflow with IDEE

DOSE PREPARATION

IDEE

DILUTION

VOLUME

MOTILITY

CONCENTRATION

PACKAGING

IDEE ADMIN

SALES SOFTWARE
IDEE

The IDEE software integrates all ejaculate data and links all processes from semen collection to production statistics.

The laboratory management software IDEE comprises two program components: IDEE-Production and IDEE-Admin.

**IDEE-Production** is a flexible and versatile computer program based on an Access database with a modular design that automates and links the entire process from ejaculate capture to documentation of holding samples, and finally steering extender dispensing and semen packaging in tubes. The ejaculates are labeled with a barcode for fast and reliable data management.

Data collected from connected equipment (e.g., scales, photometer, AndroVision®) are registered quickly and securely. The calculation of extender quantities, the dilution of semen with the SmartDispenser, and the transfer of the data to the filling machine is fully automated resulting in an effective and streamlined laboratory operation.

IDEE-Production is available in six languages: Chinese, English, German, Italian, Russian, and Spanish.

**IDEE-Admin** directly accesses the IDEE-Production database to create a wide variety of reports. This allows for comprehensive analyses of the production efficiency of the station and that of individual boars.

IDEE-Admin is compatible with PICtraq™ allowing data to be easily transferred between the units. IDEE-Admin can also compile customer ordering data for transfer to the station’s own electronic invoicing system.

**IDEE**

*composed of IDEE-Production und IDEE-Admin*  
*REF.: 18000/0000*

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**Your benefits**

- Efficiency, traceability and high level of security for your lab
- Processes are standardized and optimized; every step is documented and verifiable
- Input errors are minimized
- Statistical analysis of all relevant production data
- IDEE can easily be connected to other software applications
- Very user friendly software that helps to save time and labor
ELECTRONIC BOAR IDENTIFICATION

Electronic boar identification with IDENT

01 Reading of technician ID from transponder wristband
02 Reading of boar identity via electronic ear tag
03 Print-out of barcode label
04 Reading of barcode label with boar ID in the lab

IDENT is available in addition to IDEE or as an independent program. The software contains collection planning, the identification of boars via electronic ear tags, the electronic identification of semen collection operators and the printout of labels with boar identity, barcode and further information about the semen collection.

IDENT software  REF. : 18000/0015

Electronic boar identification with iMale

iMale is available as an independent system or in addition to IDEE. The combination of the iMale RFID reader and the wireless iMale label printer allows the reading of animal ear tags and the direct printing of barcode labels. In addition to the tag number, further animal information like the donor name or a breed code can be printed on the label by loading a table with information on each semen donor to the device. Also a logo and the collector ID can be added to the label.

All HDX and FDX-B transponder ear tags can be read. In addition to the device’s length of 65 cm, it has a reading distance of 30 cm. iMale RFID reader comes with built-in quick-charger and external power supply. The maximum distance for wireless data transfer from the iMale reader to the label printer is about 10 meters. Once the ear tags are read, barcode labels are immediately printed with the wireless iMale label printer.

iMale RFID reader  REF. : 18001/0000
iMale label printer  REF. : 18001/0200
Collection dummy

The Minitube boar dummy is height adjustable and spring mounted, easy to use and offers an optimal collection comfort for the boar.

It is equipped with a massive bottom plate for secure fixation and wide foot supports. The smooth and easy to clean surface of the firm plastic cover guarantees maximum hygiene. Cover and mounting part can easily be replaced. A BoarMatic upgrade is possible.

Collection dummy

- 11” for mature boars, plastic cover  
  Ref.: 11100/0207
- 11” for mature boars, stainless steel body  
  Ref.: 11100/0210
- 9” for younger boars, plastic cover  
  Ref.: 11100/0107
- 9” for younger boars, stainless steel body  
  Ref.: 11100/0108

Accessories

- Mobile support for boar dummies  
  Ref.: 11100/0110
- Replacement cover for boar dummy 11”  
  Ref.: 5011100/0233
- Replacement cover for boar dummy 9”  
  Ref.: 5011100/0133
- Mounting part for boar dummy 11”  
  Ref.: 11100/0204
- Mounting part for boar dummy 9”  
  Ref.: 11100/0203
BOARMATIC BOAR DUMMY

BoarMatic

Components

- **Boar dummy**, height adjustable by pneumatic spring.
- **Slide** underneath the dummy with a **holder** for the semen collection cup and a **clamp** for the artificial cervix (AC). During the whole ejaculation process, the boar is free to move forward and backward. After the semen collection, the boar is able to leave the dummy without assistance and the slide with the collection cup automatically rolls to a safe position underneath the dummy.
- The **single use AC** is a true copy of the porcine cervix in texture and surface. Its rubber cushions stimulate the boar and assure a perfect hold for the tip of his penis. A tear-away inner pouch to collect the first sperm free jets of the ejaculate and a sheath leading the ejaculate into the semen collection cup are integrated in the AC.
- **Easily exchangeable mounting part** that can be replaced within a few seconds, therefore ensuring maximum hygiene conditions during boar semen collection.

BoarMatic

11” for mature boars, plastic cover  
REF. : 11100/0202

11” for mature boars, stainless steel body  
REF. : 11100/0200

9” for younger boars, plastic cover  
REF. : 11100/0201

9” for younger boars, stainless steel body  
REF. : 11100/0199

Accessories

- **Artificial cervix (AC)**, single use  
REF. : 11100/0211

- **Semen collection cup**, for use with AC  
REF. : 11100/0215

- **Rubber mat for boar dummy**, 150 cm x 100 cm x thickness 23 mm  
REF. : 11100/0040

- **Replacement cover** for boar dummy 11”  
REF. : 5011100/0233

- **Replacement cover** for boar dummy 9”  
REF. : 5011100/0133

- **Mounting part** for boar dummy 11”  
REF. : 11100/0204

- **Mounting part** for boar dummy 9”  
REF. : 11100/0203

- **Height adjustable clamp holder**  
REF. : 11100/0208

Your benefits

- Suitable for all boars, easy to handle, adaptable to existing installations
- Simple mechanics, no electric or pneumatic connections necessary, requires low maintenance
- Reduced physical stress for semen collectors, which increases motivation and the image of this profession

Heating cabinet

The heating cabinet is designed to pre-warm semen collection material in the collection area, i.e. collection bags, cups and ACs for the BoarMatic. The cabinet has a **pre-set temperature of +37°C**. Other temperatures are available upon request. It has a net volume of **156 liters** and is equipped with racks to optimize the storage of material.

Heating cabinet, +37°C, 230 V  
REF. : 14160/0150
US Bag®

Your benefits

• The complete one-way solution from semen collection to packaging
• Quick and clean preparation of the semen collection cup: filter and inner surface of the US Bag® are kept contamination free
• Simple and efficient semen processing: the ejaculate remains in the US Bag® for dilution and packaging
• No more time-consuming sterilization
• Essential improvement of lab hygiene
• Clear foil allows an easy inspection of the raw ejaculate

Product features

• Semen friendly material
• Integrated non woven filter
• Perforation line for tearing off the filter after use
• 100/package

US Bag®, volume 3.5 l  REF. : 11123/0100
US Bag®, volume 5.5 l  REF. : 11123/0550
US Bag® with spout, volume 3.5 l  REF. : 11123/0200

Accessories

Semen collection cup, insulated, extra wide opening, volume 1 l, blue  REF. : 11123/1000
e extra wide opening, volume 1 l, white  REF. : 11123/2000

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

Hygienic glove, for the protection of the collection glove during boar preparation, 100/package  REF. : 11128/0100

Semen collection bag, 210 x 300 mm, volume 1 l, 100/package  REF. : 11123/3010

Filter for boar semen, non woven tissue, non-absorbing, 240 mm diameter, 200/package  REF. : 11123/3020
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 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.

AndroVision® can be seamlessly integrated with the IDEE laboratory processing software. The user interface is straightforward and easy to understand: only three clicks from start to result. An optional touch screen interface and barcode scanner enhances the system for even quicker and efficient application.

These features and more make AndroVision® the ideal choice for semen assessment in a research and production lab.

Accessories

ScanStage: The automated microscope stage has an integrated heating system that can be used with a variety of different microscopes. Approach of the points of analysis within the counting chamber is automated and identical always with the ScanStage, ensuring that variability of measurements is reduced to a minimal level.

(1) ScanStage with heating system  REF. : 12048/0000
(2) Controller HT 200 S  REF. : 12055/0203
(2) Warming plate, 245 x 200 mm  REF. : 12055/0041

AndroVision® software, with PC and accessories  REF. : 12500/0000
AndroVision® software, with touchscreen and barcode scanner  REF. : 12500/0001
AndroVision® high speed color camera  REF. : 12500/4400
AndroVision® software modules

**AutoMorph**
Module for the automated recognition of proximal and distal plasma droplets as well as bent tails of porcine semen. AutoMorph is integrated in the analysis of motility and concentration. The semen sample should be diluted in clear extender. Plasma droplets are symptoms of a defective maturation of sperm, which can be attributed to various causes such as stress or disease.

**Module AutoMorph**  **REF. : 12500/1000**

**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
**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**

**Semen stains**

- 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**
- SpermBlue, stain for morphology analysis, 250 ml  
  **REF. : 15405/0027**

**Phase contrast microscope MBL**

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

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

- **Trinocular**, objective 20x  
  with temperature control unit HT 50  
  **REF. : 12010/2103**
  with temperature control unit HT 200, additional warming plate, ocular color camera and 24" monitor  
  **REF. : 12010/2101**

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

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

**Laboratory scales**

- Precision scale for the determination of the ejaculate volume or for weighing out extender, weighing range: 6000 g, resolution 1 g, weighing pan 150 x 170 mm  
  **REF. : 14273/0440**

- Precision scale for accurate weighing of antibiotics or extender powder, weighing range: 2000 g, resolution 0.1 g, weighing pan 130 x 130 mm  
  **REF. : 14295/0444**

www.minitube.com
PHOTOMETRY

Photometer SDM 6

Your benefits

- Determination of sperm concentration and dose calculation of boar, bull, stallion, ram and buck semen
- Automatic calculation of extender volume and number of doses
- Display of semen concentration in $10^5$ sperm/ml
- Large touch screen, easy handling
- Serial and parallel interfaces for data transfer
- Optional: integrated printer for printout of ejaculate production data

Technical features

- Spectral range: 430 – 680 nm
- Filter: 546 nm
- LED light source
- Use of 10 mm macro cuvettes
- Analysis time: 2 seconds/sample
- Power supply: 230 V/50 Hz or 110 V/60 Hz

Photometer SDM 6, with integrated printer  REF. : 12300/0006
Photometer SDM 6, without printer  REF. : 12300/0008

Accessories

Control cuvette set, 4 pieces  REF. : 12300/0010
Paper for printer  REF. : 12300/0311
Macro cuvette, 4 ml, 100/box  REF. : 12301/0003
NaCl solution, 0.9 %, 1 l  REF. : 12301/4667
Dispenser, 0.5–5 ml for NaCl solution  REF. : 12428/1815
Bottle for dispenser, 500 ml  REF. : 12428/1905
Adjustable single channel pipette, yellow, autoclavable, 10 – 100 µl  REF. : 12425/4810
Pipette tip, 10 – 100 µl, yellow, 1000/bag  REF. : 12425/9409

Photometer SDM 1

The SDM 1 is a compact, highly accurate photometer developed for measuring sperm concentration. It can be calibrated for porcine, bovine, equine, canine and small ruminant species. Cleaning is simple, maintenance is minimal.

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

Photometer SDM 1, calibrated for porcine semen  REF. : 12300/0100

Accessories

Microcuvette for SDM 1, 100/box  REF. : 12300/1111
Multispecies software for reprogramming to other species  REF. : 12300/0130

www.minitube.com
Designed to support sperm
Minitube extenders contain specific combinations of antioxidants, proteins, salts and sugars, buffering agents, antibiotics and proprietary compounds.

Cell Shield Protection (CSP®) is a proprietary additive in Minitube Plus extenders that provides unparalleled protection for sperm when exposed to temperature fluctuations from 10°C to 25°C. CSP® actively plays a role in membrane stabilization and protects against premature sperm capacitation. Minitube Plus extenders reduce adverse effects resulting from unpredictable environmental or handling conditions.

Antioxidants are important molecules that slow down or prevent oxidation, a biochemical process recognized as the major cause of sperm deterioration and death. Antioxidants are found naturally in seminal plasma and some have fertility enhancing properties. Minitube continuously researches the role of specific antioxidants in order to manufacture extenders with the most powerful and effective formulas available.

Buffers
Minitube long-term extenders contain special buffering systems that are able to maintain a physiological pH level over a wide temperature range and long time span.

Antibiotics help to control bacterial growth from contamination that occurs during collection through processing. Minitube provides antibiotic formulations that comply with national and international regulations.

The ingredients for your success: quality, security, reliability

Your benefits
- Robust and reliable thanks to specific formulation
- Temperature stable during transportation and storage
- Convenient and userfriendly packaging
- GMP-certified production
Quality control using GMP standards at every production step

The superior quality of Minitube extenders is due to our strict quality control of all raw materials as well as of the end product. Each batch of components and each batch of extender produced is examined for purity and semen conservation properties. Production complies with the rigorous GMP standards. For safety, quality and reliability.

**PRODUCTION**

- Raw Material Selection
- GMP standards
- Only original materials of highest quality and purity enter the production chain

**QUALITY CONTROL**

- Raw Material Test
- Suitability for semen conservation:
  - a) physico-chemically
  - b) spermatologically
- Batch release of raw materials for extender production if all requirements are met

**DOCUMENTATION**

- Mixing & Packaging
- GMP standards
- Weighing Record
- Release for batch control with production records

- Quality Control
- Quality control of each batch is performed under veterinarian supervision.
  - The measurements are repeated over the storage time and are compared with a control in the split-sample method.
    - CASA motility analysis
    - evaluation for acrosome integrity and morphology
    - flowcytometric analysis with FITC/PNA and PI fluorescent stains
- Weighing Record
- Release for final batch control with production records

- Final Quality Control
- Final approval according to Minitube QC guidelines
- Batch Certificate
- Release for sales with positive result of all records

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(1) GMP means that the production methods meet the strict regulations of the so-called “Good Manufacturing Practice” guidelines. GMP demands considerably higher standards than the DIN ISO norms. Manufacturing procedures must be exactly described and documented at every level of production. Thus, seamless tracing back of all our raw materials is assured.

(2) Veterinarian supervision of the University of Hannover over the maximum storage period for each extender.
MINITUBE BOAR SEMEN EXTENDERS

Long term extenders

Androstar® Premium®

Androstar® Premium long-term extender for boar semen is based on an innovative combination of protective molecules. Specialized antioxidants are combined with a variety of highly effective membrane protecting agents. External influences on the sensitive sperm cells are effectively buffered over a wide temperature range from +5°C to +25°C. Boar semen can therefore be preserved in an optimal state over a long time interval.

Boar studs gain freedom of operation by using Androstar® Premium, which provides greater latitude in acceptable semen temperature fluctuations and processing schemes.

<table>
<thead>
<tr>
<th>Androstar® Premium</th>
<th>REF. :</th>
<th>1 liter</th>
<th>5 liters</th>
<th>10 liters</th>
<th>100 liters</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>13533/1001</td>
<td>13533/1005</td>
<td>13533/1010</td>
<td>13533/1100</td>
</tr>
</tbody>
</table>

Androstar® Plus®

The synthetic conservation medium supports the sperm cells over a long period and protects against the influences of suboptimal transport and storage conditions. Besides a potent buffer system and an effective combination of antioxidants, Androstar® Plus contains an efficient and well-proven membrane stabilizer. Thus, the sperm cells are less susceptible to damages due to suboptimal and volatile storage temperatures. The temperature limit tolerated by the sperm cells extends to the range of +10°C to +25°C.

<table>
<thead>
<tr>
<th>Androstar® Plus</th>
<th>REF. :</th>
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</thead>
<tbody>
<tr>
<td>1 liter</td>
<td>13531/1001</td>
</tr>
<tr>
<td>5 liters</td>
<td>13531/1005</td>
</tr>
<tr>
<td>10 liters</td>
<td>13531/1010</td>
</tr>
<tr>
<td>100 liters</td>
<td>13531/1100</td>
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</tbody>
</table>

*These extenders contain no animal components

PERFORMANCE MEDIA

The CSP® formula protects sperm cells better — from day 1 on. Androstar® extenders reduce adverse effects from unpredictable environmental and handling conditions.
Medium and standard term extenders

**M III®**

M III® is an ideal extender for the medium preservation time and maintains the quality of boar semen for 4 to 5 days. M III® contains antioxidants to prevent the ageing process of semen cells. A potent buffer system provides stable pH during the entire storage period. M III® is characterized by its excellent solubility.

- **M III®**
  - 1 liter  **REF. : 13515/0001**
  - 5 liters  **REF. : 13515/0005**
  - 10 liters  **REF. : 13515/0010**
  - 83 liters  **REF. : 13515/0083**

**BTS**

BTS made by Minitube is the market leader among the standard extenders for short-term preservation of boar semen. The classic formula improved by Minitube provides a balanced medium for the storage of at least 3 days.

- **BTS**
  - 1 liter  **REF. : 13525/0001**
  - 5 liters  **REF. : 13525/0005**
  - 10 liters  **REF. : 13525/0010**
  - 20 liters  **REF. : 13525/1020**
  - 100 liters  **REF. : 13525/1100**
  - 100 liters, without antibiotics  **REF. : 13525/0100**

Minitube extenders are available with a variety of antibiotics. The antibiotics are selected according to very strict criteria and each batch is tested for efficiency and sperm friendliness. Thus, the compatibility with sperm viability is guaranteed, as well as the stability and the efficiency of the antibiotics for the entire preservation time.

Extenders without antibiotics and separately compounded antibiotics are available alternatively.

**Euro Cocktail** for the preservation of boar semen according to the norm 90/429 of the European Community. Contains Streptomycin, Penicillin, Lincomycin, and Spectinomycin. The quantity is sufficient for 5 liters extender.

- **Gentamicin sulphate**
  - 12.5 g for 50 liters extender  **REF. : 13540/3050**
  - 25 g for 100 liters extender  **REF. : 13540/3100**

Only recommended for temporary and accompanying measure to control resistant bacteria:

- **Antibiotic supplement for 100 l boar semen extender**  **REF. : 13540/4000**
PREPARATION OF BOAR SEMEN EXTENDER

Heated extender vat, 100 / 200 liters

**Technical features**
- Double wall and double bottom with heating system
- Temperature control unit HT 50 with freely adjustable temperature up to +55°C
- All stainless steel, easy to disinfect
- On wheels
- Power supply 230 V (110 V also available)

**Your benefits**
- Selected extender temperature is reliably maintained during the whole production day
- Disposable round bottom plastic bags provide optimal hygiene standard

<table>
<thead>
<tr>
<th></th>
<th>100 liters</th>
<th>200 liters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heated extender vat</td>
<td>ref.: 13201/0100</td>
<td>ref.: 13201/0200</td>
</tr>
<tr>
<td>with stirring drive</td>
<td>ref.: 13201/0100R</td>
<td>ref.: 13201/0200R</td>
</tr>
<tr>
<td>with stirring drive, scale, on wheels</td>
<td>ref.: 13201/0102R</td>
<td>ref.: 13201/0202R</td>
</tr>
<tr>
<td>with stirring drive, scale, on wheels, UV lamp, heated lid</td>
<td>ref.: 13201/0104R</td>
<td>ref.: 13201/0220R</td>
</tr>
<tr>
<td>Round bottom plastic bag</td>
<td>ref.: 13201/4115</td>
<td>ref.: 13201/4116</td>
</tr>
<tr>
<td>Retrofit kit heated lid and UV lamp</td>
<td>ref.: 13201/0400</td>
<td>ref.: 13201/0420</td>
</tr>
</tbody>
</table>

Connection 230 V, also available for 115 V.

Heated extender vat, 20 liters

- Temperature control unit HT 50 with freely adjustable temperature up to +55°C
- All stainless steel, easy to disinfect
- Two openings in the lid allow the connection to an automatic pump, or to the SmartDispenser

<table>
<thead>
<tr>
<th></th>
<th>230 V</th>
<th>115 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heated extender vat, 230 V</td>
<td>ref.: 13201/0020</td>
<td></td>
</tr>
<tr>
<td>Heated extender vat, 115 V</td>
<td>ref.: 13201/0021</td>
<td></td>
</tr>
<tr>
<td>UV lamp for 20 l extender vat</td>
<td>ref.: 13201/0025</td>
<td></td>
</tr>
<tr>
<td>Round bottom plastic bag for 20 l vat</td>
<td>ref.: 13201/4112</td>
<td></td>
</tr>
</tbody>
</table>

Options

- Temperature controlled vat with a magnetic stirring drive built into the base and a speed controlled stirring rod.
- Temperature controlled vat with an integrated scale on wheels.
- Temperature controlled vat with heated lid and UV-lamp: The heated lid prevents the condensation of vapour thereby eliminating a possible source of contamination that arises when drops fall back into the vat. The water can be disinfected with UV-radiation before the extender is added to the vat. This facilitates utmost levels of hygiene during production.
### SmartDispenser 2.0

#### Product features
- Combination of pump, balance and control unit with touch screen
- Constant feed back between pump and control unit guarantees a measuring precision of ±2 g
- Can be combined with a heated extender tank and lab management software
- Very modest space requirements
- Splash reduction for less spillage of semen during dilution

The SmartDispenser packages include a stand, tubing/sinker, control unit, scale and a pump.

1. **SmartDispenser XL**
   - Scale up to 24 kg with a resolution of ±2 g
   - Pump: up to 13 l/min
   - REF. : 13200/0501

2. **SmartDispenser L**
   - Scale up to 12 kg with a resolution of ±2 g
   - Pump: up to 5 l/min
   - REF. : 13200/0502

### Accessories
- **Silicone tubing for SmartDispenser L**  
  REF. : 13200/0011

- **Sinker for SmartDispenser L, stainless steel**  
  REF.: 5013200/0012

- **Silicone tubing for SmartDispenser XL**  
  REF. : 13200/6010

- **Sinker for SmartDispenser XL, stainless steel**  
  REF.: 5013200/6011

- **Semen mixing cylinder, 3.5 l**  
  REF. : 13203/0001

- **Semen mixing cylinder, 5.5 l**  
  REF. : 13210/0030

### EASY AND ACCURATE

Highest level of security and precision for the process of semen dilution! The combination of devices allows a highest possible dosage accuracy of extender in the semen laboratory.
TEMPERATURE MANAGEMENT & QUALITY CONTROL

**Laboratory heating plate**
- For keeping raw ejaculates warm until analysis is completed
- Preset temperature: 37°C
- Integrated control unit, external power supply
- Heated area: 470 x 260 mm
- Suitable for 115 V und 230 V
- Power consumption: 70 watt

**Laboratory heating plate**  REF. : 12055/0010
**Support for US Bag**  REF. : 11124/1000

**Infrared thermometer**
For temperature measurement without contact. With laser for marking the measuring point.
- Measurement range: -50 to +200°C /+200 to +800°C
- Display in °C or °F selectable
- With case and battery

**Infrared thermometer**  REF. : 15120/7000

**Water bath, stainless steel**
For keeping semen and extender warm in dry environment. The water bath is covered by the inserts, which protect the ejaculates against spray water.
- Inner dimensions of each of 6 cylinders ø 140 x 296 mm, volume 4.1 l
- Immersion thermostat with circulation pump
- LED temperature display, heating capacity 2 kW
- Operating temperature +20°C to +38°C
  (for sterilization short-time operating at up to +100°C possible)

230 V / 50 Hz  REF. : 14079/0060
115 V / 60 Hz  REF. : 14079/0061

**Refractometer**
Test for correct extender powder - water ratio in prepared boar semen extender. Important quality control test in the boar semen laboratory.

**Refractometer**  REF. : 24400/0160
QUALITY CONTROL & WATER SANITATION

**EasyCult**
Culture medium for bacterial analysis. Includes two different culture media for the analysis of aerobic and anaerobic bacteria. For the hygiene control in the semen laboratory.

**EasyCult, 20/box**

**Mini Incubator for EasyCult**
- 230 V / 50 Hz  
  REF. : 14125/0010
- 110 V / 50 Hz  
  REF. : 14125/0011

**Semen dyes**
- 20 ml
  - Red  
    REF. : 13900/0200
  - Blue  
    REF. : 13900/0300
  - Green  
    REF. : 13900/0500
  - Yellow  
    REF. : 13900/0600
- 100 ml
  - Red  
    REF. : 13900/0720
  - Blue  
    REF. : 13900/0730
  - Green  
    REF. : 13900/0750
  - Yellow  
    REF. : 13900/0760

**UV water disinfection unit**
- For disinfection of purified water (e.g. by ion exchange cartridges)
- Significant improvement of water hygiene, easy and cost efficient prevention of water contamination
- With control function for UV lamp life time
- 1/2" connection
- Stainless steel
- Capacity: up to 400 l/h
- 110-240V, 50/60 Hz

**UV water disinfection unit**

REF. : 14010/3000

www.minitube.com
WATER PREPARATION

Water purification system

Your benefits

- High purity degree of the purified water
- High security due to automatic sanitisation, quality tests and warning notices
- Requires low maintenance

Technical features

- Latest technology, based on reverse osmosis
- Membrane free of cellulose
- Microprocessor control for the control of water quality
- Alert function in case a filter change is required
- Self-purification function guarantees long operating life of the membrane
- Indication of the purified water quality in conductivity and % deionization
- Sterile filter for tank ventilation
- Connection: 230 V/50 Hz, 115 V/60 Hz, 100V/50 Hz or 100 V/60 Hz

Millipore water treatment plant with tank, production capacity approx.:

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Tank Capacity</th>
<th>Ref.</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 l/h, 200 l tank</td>
<td>200 l</td>
<td>14040/0024</td>
</tr>
<tr>
<td>8 l/h, 100 l tank</td>
<td>100 l</td>
<td>14040/0008</td>
</tr>
</tbody>
</table>

Water distillers

Monodistiller 2008

- Stainless steel
- With reservoir
- Connection: 220 V/3 ph or 400 V/3 ph + 0
- Input: 6000 W

Capacity: 8 l/h, reservoir 16 l | Ref. : 14054/2008 |

Capacity: 12 l/h, reservoir 24 l | Ref. : 14054/2012 |

Bidistiller 2108

- Stainless steel
- Capacity: 8 l/h
- Usage of cooling water: 198 l/h
- Connection: 220 V 3 ph or 400 V/3 ph + 0
- Input: 11500 W

Ref. : 14052/2108
## QuickTip Flexitube®

QuickTip Flexitube®, very soft wall  
QuickTip® Superflexitube, extra soft wall

Minitube tubes are available in different colors and sizes:

<table>
<thead>
<tr>
<th>Color</th>
<th>60 ml</th>
<th>60 ml, flexible nozzle</th>
<th>95 ml</th>
<th>95 ml, flexible nozzle</th>
<th>95 ml</th>
<th>95 ml</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transparent</td>
<td>REF.: 13451/03501</td>
<td>REF.: 13454/03601</td>
<td>REF.: 13452/03961</td>
<td>REF.: 13453/07961</td>
<td>REF.: 13452/07961</td>
<td></td>
</tr>
<tr>
<td>Red</td>
<td>REF.: 13454/13601</td>
<td>REF.: 13452/13961</td>
<td>REF.: 13453/17961</td>
<td>REF.: 13452/17961</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yellow</td>
<td>REF.: 13454/23601</td>
<td>REF.: 13452/23961</td>
<td>REF.: 13453/27961</td>
<td>REF.: 13452/27961</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green</td>
<td>REF.: 13454/33601</td>
<td>REF.: 13452/33961</td>
<td>REF.: 13453/37961</td>
<td>REF.: 13452/37961</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blue</td>
<td>REF.: 13454/43601</td>
<td>REF.: 13452/43961</td>
<td>REF.: 13453/47961</td>
<td>REF.: 13452/47961</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Orange</td>
<td>REF.: 13454/53601</td>
<td>REF.: 13452/53961</td>
<td>REF.: 13453/57961</td>
<td>REF.: 13452/57961</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Violet</td>
<td>REF.: 13454/63601</td>
<td>REF.: 13452/63961</td>
<td>REF.: 13453/67961</td>
<td>REF.: 13452/67961</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Tube clamp

to seal e.g. tubes of test samples  
REF.: 13452/0005

www.minitube.com
QUICKTIP FLEXITUBE®

Optimal conservation of boar semen

- Filling level line: easy to read
- Flexible walls: for a complete semen uptake by the sow
- Tube bottom: particularly reinforced, so that the tube stands upright on the catheter
- Ergonomic twist-off tip: no tool necessary with QuickTip® tubes

What characterizes an optimal boar semen tube?

- All raw materials are tested for sperm biocompatibility
- Production purity (GAD): absence of critical substances guaranteed
- Maximum hygiene requirements at the production site: access controls, no admittance to personnel with contact to pigs, air filters
- Dedicated production lines produce only boar semen tubes
- Only new granulate is used (no recycled material)
- Minimum dimension tolerances between tubes and lots
- Seamless documentation of all batch tests

Airstream
QuickTip® semen bag

Minitube semen bags are made from an innovative multilayer plastic foil and 100% sperm-safe.

- Every batch of Minitube semen bags undergoes the Sperm Safe program
- Materials are exclusively sourced from certified German suppliers and comply with FDA and EU directives
- All raw component batches undergo sperm toxicity tests prior to release for production
- The production process guarantees full traceability
- Made by Minitube in Minitube premises, production certified according to ISO 9001:2015 and regularly audited by external entities

The proven QuickTip® system guarantees an easy and fast application for the AI technician.

- Tip stays securely closed until AI
- Easy to open by bending the tip without any tool, easy to connect to any catheter
- Tip stays with the bag after opening and will not end up in the manure
- Suitable for all catheters and insemination techniques
- Quick, easy and hygienic insemination

Minitube semen bags are available in various sizes and formats. They are compatible with all common bag filling and sealing machines.

**QuickTip® semen bag, narrow type (NT)**

- Volume up to 60 ml, 750 pcs./roll
  - Ref.: 13460/0060
- Volume up to 90 ml, 750 pcs./roll
  - Ref.: 13460/0090

**QuickTip® semen bag, wide type (WT)**

- Volume up to 60 ml, 750 pcs./roll
  - Ref.: 13460/1060
- Volume up to 90 ml, 750 pcs./roll
  - Ref.: 13460/1090

100% SPERM-SAFE

Stay safe: use the entirely adhesive free Minitube semen bags!
HyPacker, MiniBSP, SPS-11 and TwinPacker

HyPacker, MiniBSP, SPS-11 and TwinPacker are synonyms for automated boar semen production. Producing more than 100 million tubes per year worldwide, these Minitube machines prove their worth every day as reliable and efficient cornerstones for the AI industry.

- Industrial design and high quality technology ensure consistency of your semen production
- High processing speed provides your laboratory with efficiency and high performance
- The automation of semen production saves labor time and increases the product quality
- Interfaces to IDEE or other computer programs make the production data available in real time to sales and administration
- Our service team provides full service via hotline, by remote access via tele-service or on the spot

- Profitability is the aim: cost-effective production without wastage due to the use of tubes for semen packaging
- Machine control via industrial PC with touch screen, easy menu navigation
- Sealing of the tubes with ultrasound (HyPacker, MiniBSP, SPS-11)
- Automatic labeling, also possible with barcodes and company logo via thermo-transfer or thermo-direct printer

<table>
<thead>
<tr>
<th></th>
<th>HyPacker</th>
<th>MiniBSP</th>
<th>SPS-11</th>
<th>TwinPacker</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum capacity</td>
<td>1800</td>
<td>950</td>
<td>900</td>
<td>550</td>
</tr>
<tr>
<td>(tubes/hour)*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tube magazine capacity</td>
<td>2100</td>
<td>210</td>
<td>160-210</td>
<td>9 magazines for 4 tubes</td>
</tr>
<tr>
<td>Required space</td>
<td>200 x 110 cm</td>
<td>180 x 65 cm (table)</td>
<td>142 cm x 70 cm (table)</td>
<td>72 x 90 x 138 cm (table)</td>
</tr>
<tr>
<td>Serial data connection</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Operating pressure</td>
<td>6 bar (5 - 10)</td>
<td>6 bar (5 - 10)</td>
<td>6 bar</td>
<td>-</td>
</tr>
<tr>
<td>Compressor capacity</td>
<td>&gt; 440 l/min</td>
<td>&gt; 350 l/min</td>
<td>550 l/min</td>
<td>-</td>
</tr>
<tr>
<td>Pressure tank</td>
<td>200 l</td>
<td>100 l</td>
<td>300 l</td>
<td>-</td>
</tr>
<tr>
<td>Electric connection</td>
<td>230/110 V, 50/60 Hz</td>
<td>230/110 V, 50/60 Hz</td>
<td>230/110 V, 50/60 Hz</td>
<td>230 V, 50 Hz</td>
</tr>
</tbody>
</table>

* performance data may vary depending on production conditions
AUTOMATIC PACKAGING MACHINES FOR BOAR SEMEN

HyPacker

The HyPacker offers the highest capacity among the Minitube filling machines and is the ideal solution, when large quantities of tubes need to be filled, sealed and labelled in a short time. Due to its robust industrial design, the HyPacker needs very low maintenance, meets highest hygiene requirements and guarantees ergonomic operation.

- Speed of up to 1800 tubes per hour under production conditions due to double filling station for automated ejaculate exchange
- Third tube filling station with integrated pump for optional extender addition
- Processing of single ejaculates or pools and of different tube lengths
- Filling with electronic weighing cells: enables adjustment of the filling level in every tube via software and ensures a very exact filling volume (± 1 ml)
- Ultrasound sealing unit, welding gap easy to adjust
- Hygienic design and easy cleaning: closed surfaces, all elements in protective casings, easy removal of single parts
- Servo-powered tube transport and boxes carousel
- Integrated lot sorting in boxes or bags
- High speed thermal transfer printer (printer configuration via Ethernet)
- 4 standard label formats
- Communicates with IDEE and other laboratory software programs
- Integrated barcode scanner and touchscreen for high user-friendliness
- Detachable modular tube magazine (2100 tubes) for filling outside the lab area
- Baldachin with colored illumination codes showing the operation status

HyPacker

REF. : 13208/4000

Accessories

<table>
<thead>
<tr>
<th>Item</th>
<th>Ref.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dispensing tubing</td>
<td>13208/4160</td>
</tr>
<tr>
<td>Ejaculate container, 5.4 l</td>
<td>13208/4030</td>
</tr>
<tr>
<td>Pool container, 15 l</td>
<td>13208/4015</td>
</tr>
<tr>
<td>Label, blank, 2500/roll</td>
<td>13210/4831</td>
</tr>
<tr>
<td>Bag for ejaculate container, 5.5 l</td>
<td>13203/4010</td>
</tr>
<tr>
<td>Bag for pool container, 15 l</td>
<td>13203/4100</td>
</tr>
</tbody>
</table>

www.minitube.com
AUTOMATIC PACKAGING MACHINES FOR BOAR SEMEN

MiniBSP

This fully automatic packaging machine for boar semen is a space saving table model and is suitable for the processing of up to 950 tubes per hour.

Product features

• Integrated tube magazine for 210 tubes
• Control of filling level by electronic weighing cells: adjustment of the filling level per tube via software with a filling accuracy of ±1 ml
• Adjustable ultrasonic sealing station for different tube sizes (30 ml to 90 ml)
• Labelling with barcodes, 2D-codes, PDF 417-codes and company logo; very fast exchange of the label roll
• Second filling station for tubes with automatic ejaculate change: While the machine is processing the ejaculate, the second one can be prepared and the machine automatically switches to the second filling station (machine can be used without interruption)
• Fully automatic data transfer from and to laboratory software in real time
• Internet capabilities for remote service access

MiniBSP

Accessories and options

Third tube filling station with extender dispenser
After adding pre-extended ejaculate, this station fills each tube with the remaining volume of extender. The two phase dilution saves time and leads to a faster cooling of the semen, as the second dilution step is performed with extender that is maintained at room temperature.

REF. : 13210/0045

Mobile MiniBSP table, with conveyor belt for automatic separation of ejaculates into storage boxes, including 3 storage boxes

REF. : 13210/0091

Thermo-transfer printer (instead of standard thermo-direct printer)
Thermo-transfer labels are more robust, especially against humid environments.

REF. : 5013210/0320

HIGH QUALITY TECHNOLOGY
Elaborate construction details that guarantee best observation ability, optimal machine operation and minimum maintenance.
AUTOMATIC PACKAGING MACHINES FOR BOAR SEMEN

SPS-11

Automatically fills tubes with the selected semen volumes, provides an ultrasound seal and labels each tube – ideal for processing semen pools.

**Technical features**

- Processing capacity: approx. 900 tubes/hour
- Dose volume 45-85 ml; with low dose option 35 ml
- Available for filling 90ml tubes with and without flexible nozzle
- Filling accuracy ± 1.5 ml
- Includes two dispensing pitchers (1−60 dose per 5 l capacity and 1−200 dose per 16 l capacity pitcher)
- Very robust tube sealing
- Customizable labels including barcodes (Code 39)
- Communicates directly with PRISM, IDEE and other lab software
- Highest reliability for production, easy maintenance

**SPS-11, 110 V**  REF: 13220/1100

**SPS-11, 230 V**  REF: 13220/1112

**TwinPacker**

Compact and robust table top machine for filling, sealing and labeling boar semen tubes – the ideal solution for small and medium sized boar studs.

**Technical features**

- Dual working cycle that processes 2 semen tubes at a time
- Capacity: up to 550 tubes per hour
- Filling with peristaltic pumping system: produces a precise volume from the first tube on (±3 ml)
- No semen loss during the startup of the filling hose
- Secure sealing of tubes by means of thermal pulse-welding technique
- Print of individually designed labels and barcodes
- Connection with IDEE and other lab software programs possible
- Easy maintenance and service

**TwinPacker**  REF: 13214/0000

**Accessories**

- Single use dispense tubing, 25/bag, 300/box  REF: 13210/0172
- Label, blank, 2500/roll  REF: 13210/4831
- SPS-11 spare parts kit  REF: 13220/1105
- SPS-11 rubber seal with V-slot cut, reusable  REF: 13220/1170
- Plastic pitcher with lid for SPS-11 diam. 23.5cm, holds approx. 200 doses, 16 l  REF: 13220/2103
- Filling tube with stainless steel sinker  REF: 13214/0010
- Tube magazine for 4 tubes  REF: 13214/0020
- Label roll with 2500 labels  REF: 13214/3049
- Adapter for magazines for filling 60 ml tubes (4 needed for each magazine)  REF: 13214/0024

www.minitube.com
# SEMI-AUTOMATIC PACKAGING SYSTEM FOR BOAR SEMEN

## Manual boar semen dispenser

### Technical features of semen dispensing unit
- Rugged, solid frame
- With track for tube magazine or bottle magazine
- For mixing cylinders with disposable plastic bags in 2 sizes: 3.5 & 5.5 l
- Ref. : 13203/0000

### Technical features of sealing unit
- Simultaneous sealing of 6 tubes
- With magazine track and pedal switch
- Both jaws with 4 mm heating wires
- Individual adjustment of heating and cooling cycles
- Output: 600 tubes/hour approx.
- Ref. : 13225/0000

## Accessories

<table>
<thead>
<tr>
<th>Item</th>
<th>Ref.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semen mixing cylinder</td>
<td></td>
</tr>
<tr>
<td>3.5 l</td>
<td>13203/0001</td>
</tr>
<tr>
<td>5.5 l</td>
<td>13210/0030</td>
</tr>
<tr>
<td>Flow Through Cylinder</td>
<td>13203/0006</td>
</tr>
<tr>
<td>Insert ring for semen mixing cylinder</td>
<td></td>
</tr>
<tr>
<td>3.5 l</td>
<td>13203/0005</td>
</tr>
<tr>
<td>5.5 l</td>
<td>13210/0035</td>
</tr>
<tr>
<td>Dispensing nozzle</td>
<td></td>
</tr>
<tr>
<td>made of sperm friendly plastic material,</td>
<td>13203/0012</td>
</tr>
<tr>
<td>to be sterilized in hot water or vapour</td>
<td></td>
</tr>
<tr>
<td>Magazine</td>
<td></td>
</tr>
<tr>
<td>6 tubes</td>
<td>13204/9006</td>
</tr>
<tr>
<td>24 bottles</td>
<td>13204/0024</td>
</tr>
<tr>
<td>Adapter rack for filling of 60 ml tubes</td>
<td></td>
</tr>
<tr>
<td>(two needed for semi-automatic packaging</td>
<td>13225/0060</td>
</tr>
<tr>
<td>system)</td>
<td></td>
</tr>
<tr>
<td>Semen dispensing bag, disposable, non-toxic material, 100/roll</td>
<td>13203/4001</td>
</tr>
<tr>
<td>3.5 l</td>
<td>13203/4010</td>
</tr>
<tr>
<td>5.5 l</td>
<td></td>
</tr>
<tr>
<td>Anti-adhesive tape for sealing jaw</td>
<td>13225/0201</td>
</tr>
<tr>
<td>Heating wire</td>
<td></td>
</tr>
<tr>
<td>4 mm wide, length 620 mm, pair</td>
<td>13225/0100</td>
</tr>
</tbody>
</table>
MANUAL PACKAGING SYSTEM FOR BOAR SEMEN

Label printer
- Label printer with software for label creation and label dispenser
- Max. label size: 104 mm x 279 mm (W x L)
- Interface RS 232, USB and parallel, can be connected with IDEE

Label printer
REF. : 18800/0002

Adhesive label 30 x 50 mm, 1000/roll
REF. : 13210/4829

6-tube manual sealer
- Simultaneous sealing of 6 boar semen tubes
- Manual closing of sealing jaws with lever and 4 mm heating wires
- Individual adjustment of heating and cooling cycles
- Output: 400 tubes/hour approx.

230 V
REF. : 13225/6000
115 V
REF. : 13225/6001

3-tube manual sealer
- Simultaneous sealing of 3 boar semen tubes
- Sealing clamp with 2 mm heating wire
- Individual adjustment of heating time
- Output: 200 tubes/hour approx.

230 V
REF. : 13225/0003
115 V
REF. : 13225/0013

Tube magazine, 6 tubes
REF. : 13204/9006

Boar semen bottles
Boar semen bottles, 500/box, 100 ml
REF. : 13450/0100

Caps are available in different colors:

Blue
REF. : 13450/10001
Green
REF. : 13450/20001
Red
REF. : 13450/30001
Yellow
REF. : 13450/40001
Orange
REF. : 13450/45001
Black
REF. : 13450/50001
Violet
REF. : 13450/60001
White
REF. : 13450/70001
Pink
REF. : 13450/80001
Semen Storage, Insemination and Diagnostics

**Spirette®**
- The tip – a true copy of nature
- For perfect sealing and stimulation of the cervix
- Strong lock in the cervix for successful insemination

**Foamtip and SoftGilt**
- Tapered foam end for gentle insertion and removal
- Firm foam for better lock, increased stimulation and prevention of semen backflow
- Non-absorbing foam to prevent loss of semen
- Available in two designs: handle with lock or Safelock screw-thread at the end of the shaft for a firm hold of the tube spout
ClearGlide®

New generation insemination catheter with “poly gel tip”

With ClearGlide®, Minitube has developed a revolutionary catheter for artificial insemination of sows. Its unique poly gel tip has an excellent gliding property, adjusts perfectly to the cervix and offers superior locking of the catheter during insemination.

- New material with unique molecular structure
- Non-absorbent tip with different hardness zones
- High elasticity of the material: soft tip, compact shaft
- Available in two designs: handle with lock or Safelock screw-thread at the end of the shaft for a firm hold of the tube spout
- Excellent gliding capacity
- Flexible poly gel tip adjusts perfectly to the cervix – offering superior locking
- Sealing flange reduces semen backflow during insemination
- Recessed shaft avoids injuries

ClearGlide® - with sealing flange

ClearGlide® - traditional form

Order information

<table>
<thead>
<tr>
<th>Product Description</th>
<th>Options</th>
<th>Reference Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>ClearGlide®, with sealing flange</td>
<td>handle with lock</td>
<td>17106/4026</td>
</tr>
<tr>
<td>ClearGlide®, with sealing flange</td>
<td>Safelock screw-thread</td>
<td>17106/3026</td>
</tr>
<tr>
<td>ClearGlide®, traditional form</td>
<td>handle with lock</td>
<td>17106/4025</td>
</tr>
<tr>
<td>Spirette®</td>
<td>handle with lock</td>
<td>17102/9067</td>
</tr>
<tr>
<td>Foamtip</td>
<td>Safelock screw-thread</td>
<td>17106/5077</td>
</tr>
<tr>
<td>Foamtip</td>
<td>handle with lock</td>
<td>17106/5376</td>
</tr>
<tr>
<td>SoftGilt</td>
<td>Safelock screw-thread</td>
<td>17109/9000</td>
</tr>
<tr>
<td>SoftGilt</td>
<td>handle with lock</td>
<td>17109/9002</td>
</tr>
</tbody>
</table>

www.minitube.com
INSEMINATION CATHETERS

**PCAI catheter**

- Ideal for the post-cervical insemination of sows: all semen cells reach the uterus and can easier be transported into the fallopian tube by uterine contractions
- The fertility of the inseminated sow can be improved, or can be maintained with a reduced amount of sperm per dose
- The Foamtip or ClearGlide® head of the outer catheter is already lubricated; the whole catheter is individually packed in the hygienic SafeBlue sheath
- Inner catheter with very small diameter: nearly no semen remains in the catheter
- Inner catheter optimized in material design and flexibility to glide along the cervix tissue; no blocking and kinking in cervix cushions
- SafeBlue concept guarantees high hygiene status

PC Clear, PCAI cannula with SafeBlue ClearGlide® individually packed, lubricated, 25/bag  
**REF. : 17112/3000**

PC Blue, PCAI cannula with SafeBlue Foamtip® individually packed, lubricated, 25/bag  
**REF. : 17112/2000**

PC Gilt, PCAI cannula with SafeBlue SoftGilt individually packed, lubricated, 25/bag  
**REF. : 17112/4000**

PC Cannula for post-cervical insemination, 5/bag  
**REF. : 17112/1010**

**DeepBlue AI catheter**

- For deep intrauterine insemination of special semen doses: ideal for very low numbers of sperm, i.e. in frozen-thawed or sexed semen
- Flexible and at the same time firm and soft inner catheter, with a length of more than 1.5 m, can be inserted over the complete distance of an uterus horn up to its tip
- A small metal tip facilitates the entry into the cervix
- Patented (University of Murcia, Spain)

DeepBlue AI catheter, individually packed, sterilized  
**REF. : 17113/0100**
SafeBlue

The SafeBlue hygiene concept – proven increase of reproductive performance

A clean catheter and a clean insemination process maintain the uterus free from bacterial contamination, and thus are of great importance for the insemination success.

The sterilized, hygienically packed catheter, the use of the sheath as protection foil during the passage through the vulva and especially the fact that extra lubricant, which is often a source for bacterial contamination, is no longer needed, make of the SafeBlue a unique hygiene concept for the insemination.

A number of scientific publications and practice reports emphasise the positive effect of the SafeBlue concept: in field trials 30 to 100 piglets more per 100 inseminated sows could consistently be achieved.

- The sterilized catheter remains clean and free of contamination during storage and until insemination
- Every catheter is sterilized and individually packed in a sanitary sheath: the catheter tip is equipped with a sperm-friendly lubricant
- Due to the protective sanitary sheath, the catheter remains clean during the insertion in the vulva: only in the clean area the catheter tip is pushed through the sheath
- No more need for time consuming preparations: dry cleaning of the vulva is sufficient
- No more fumbling with lubricants
- Perforation line for simply tearing off the sanitary sheath
- Improved pregnancy rates and litter numbers

| SafeBlue ClearGlide®, traditional form | Safelock screw-thread | 100/bag, 500/box | REF.: 17106/3001 |
| SafeBlue ClearGlide®, with sealing flange | Safelock screw-thread | 100/bag, 500/box | REF.: 17106/3005 |
| SafeBlue Spirette®, traditional form | handle with lock | 100/bag, 500/box | REF.: 17106/4001 |
| SafeBlue Spirette®, with sealing flange | handle with lock | 100/bag, 300/box | REF.: 17106/4005 |
| SafeBlue Spirette® | handle with lock | 100/dispenser box, 400/box | REF.: 17102/9560 |
| SafeBlue Spirette® | handle with lock | 100/bag, 600/box | REF.: 17102/9561 |
| SafeBlue Foamtip® | Safelock screw-thread | 100/bag, 500/box | REF.: 17106/9076 |
| SafeBlue Foamtip® | Safelock screw-thread | 100/dispenser box, 400/box | REF.: 17106/9176 |
| SafeBlue Foamtip® | handle with lock | 100/bag, 500/box | REF.: 17106/9376 |
| SafeBlue SoftGilt | Safelock screw-thread | 100/dispenser box, 400/box | REF.: 17109/9001 |
| SafeBlue SoftGilt | Safelock screw-thread | 100/bag, 300/box | REF.: 17109/9003 |

Extension for insemination catheters

Minitube extensions are suitable for all insemination catheters. They are used for hanging up semen tubes on a wire, providing a hygienic connection between semen dose and catheter. The flexible extensions are applicable for all insemination techniques as the tube can be fixed in almost every position.

Flexible extension, 1/bag  REF.: 17108/1001
SafeBlue Foamtip® with extension, 100/bag, 500/box  REF.: 17107/0133
ACCESSORIES FOR PORCINE INSEMINATION

Breeding clamp

- Very easy handling: the clamp is just clipped on the back of the sow
- Elastic compressing arms stimulate the sow through pressure to the flanks
- Made of stainless steel, easy to clean, rounded edges for maximum safety in the barn
- Effective attachment of any catheter, no need for an elongation tubing between catheter and semen tube
- Flexible rubber holder fits all sows and allows movement during the insemination
- Easily speeds up to 30 inseminations per technician per hour

For sows  REF. : 17114/4000
For gilts  REF. : 17114/4001

EasyClamp breeding aid

- Lightweight and robust plastic breeding clamp for stimulation of the sow’s flanks
- Can easily be put on the sow's flanks with one hand
- Made of plastic, includes stainless steel rod with hook to hold AI catheter and semen dose
- After inserting the catheter and connecting the tube, the catheter can be fixed by the hook and the sow can finish the insemination by herself
- With this AI aid, one AI technician can inseminate 5-8 sows at the same time

EasyClamp  REF. : 17114/3000

Breeding belt

Practical with broad ribbon, velcro fastening, clamp and cord for the attachment of the tube or bottle, individually adjustable to the size of the animal.

Breeding belt  REF. : 17114/2100
ACCESSORIES FOR PORCINE INSEMINATION

BoarScent

BoarScent is a boar pheromone and aids in the identification of oestrus in sows and gilts. It also helps to stimulate the sow during AI. The spray is applied to the sow's snout.

BoarScent, 35 ml, approx. 88 applications  REF. : 17115/9051

StimuBoar

StimuBoar is a boar training aid and assists with the training of boars on a phantom. The spray is applied to the boar’s snout and directly to the dummy when training a young boar. The spray can also help to stimulate old boars to mount the dummy quicker.

StimuBoar, 35 ml, approx. 88 applications  REF. : 17115/9005

Backfat measuring device

- Allows a very easy determination of the backfat thickness, i.e. at the P2 point
- Measuring can be done with one hand
- Robust device in metallic design
- Display informs about total fat thickness in mm and additionally about thickness of each of the three fat layers
- Long operation: up to 11 hours with one battery charge

Backfat measuring device, incl. charger  REF. : 23330/0100

Lubricant ReproJelly

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

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

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

Dispenser for canister  REF. : 11907/3100
Air conditioned boxes

- Thermoelectric peltier element technique provides heating and cooling to maintain the desired temperature in the box
- Automatic switchover between heating and cooling
- Precise, electronic temperature control
- Polyurethane-full-foam insulation
- 12 V DC connection for mobile use

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Preset temperature (+17°C)</th>
<th>Variable temperature setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 l</td>
<td>ref. 17161/0008</td>
<td>ref. 17161/0009</td>
</tr>
<tr>
<td>30 l</td>
<td>ref. 17161/0030</td>
<td>ref. 17161/0031</td>
</tr>
<tr>
<td>40 l</td>
<td>ref. 17161/1033</td>
<td>ref. 17161/0032</td>
</tr>
</tbody>
</table>

For all air conditioned boxes:

Converter 12 V/AC 100-240 V ref.: 17165/1395

Temperature controlled semen storage units

With variable temperature setting for double purpose: For semen storage at 17°C or for pre-warming the semen collection items to +40°C. Digital temperature display clearly legible from the outside. Power supply: 230 V

- for 300 tubes / bottles ref.: 14160/0300
- for 700 tubes / bottles, with glass door ref.: 14160/0352
- with temperature preset to +17°C, for 300 tubes / bottles ref.: 14160/0200

Klima Kit: Electronic controller for keeping +17°C in any refrigerator. No installation required. Target value adjustable.

- 230 V ref.: 14160/9001
- 110 V ref.: 14160/9002
PREGNANCY DETECTION

Ultrasound scanner
Portable ultrasound scanner for pregnancy detection. Robust, battery operated and easy to clean. Integrated auto-measure function to easily measure back fat thickness.
Comes with 3.5 MHz convex probe (70° forward), stable carrying case, carrying strap, two rechargeable batteries, battery charger and USB cable to transmit pictures.

**Ultrasound scanner** (5” TFT-Monitor)  [REF.: 23500/1000]
**Spare battery set** (2 pc.)  [REF.: 5023500/1010]

Day 22  Day 25

Doppler pregctector
Portable Doppler ultrasonic device with inclined scanning area for pregnancy detection in sows.
Positive diagnosis with the Doppler audio signal from day 25 after AI onwards. Battery operated, complete with headset, instruction CD, and carry case.

**Doppler pregctector**  [REF.: 23350/2050]

Pregnancy tester
For pregnancy detection after 30 days by ultrasonic waves.
Operated with rechargeable or normal battery. Very handy, robust and easy to operate. Good freedom of movement due to a probe connected to a spiral cable. Complete with carry case, test body, wrist band, contact gel bottle and standard battery.

**Pregnancy tester**  [REF.: 23350/2835]
**Charger for 100-240 V, with rechargeable battery**  [REF.: 23350/2840]
Training and Education

AI training model “Suzy”

“Suzy” is an artificial sow for training AI technicians in a safe and convenient environment, before they start working with real animals. The training model consists of a plastic body and silicone internals. It provides a most realistic gynaecological tract (GT) that can be removed to demonstrate anatomy and the AI process as an initial step of the training session.

Product features

- Anatomically correct sow model including full reproductive tract and cervix which provides an authentic feeling during AI training
- Modular approach providing different training levels for quick learning success
- Passage of inner cannula of PCAI catheter is very natural through noticeable cervix cushions
- Correct introduction of AI catheter and inner cannula is confirmed by oinking sound
- “Real”, complete insemination process can be performed
- Compact and light-weight training model for easy transport and cleaning

Artificial sow “Suzy” with complete gynaecological tract for traditional cervical insemination

REF. : 22400/0100

Artificial sow “Suzy” with 2 complete gynaecological tracts for traditional and post-cervical insemination

REF. : 22400/0101

Spare parts

Outer part with rectum, vulva and tail

REF. : 22400/0105

Genital tract for traditional and post-cervical insemination with Oinkmaster, vaginal tube and cervix

REF. : 22400/0106
Embryo transport kit

- Holds temperature for 20 hours during transport (= capacity of battery)
- Pressure relief valve adjusts for rapid altitude changes during flights
- Heavy duty box – impact and water resistant
- Electrical components isolated in metal enclosure
- Outer dimensions: 43 x 24 x 34 cm
- Weight of kit: approx. 10 kg

Transport box with dry battery and battery charger  REF. : 19180/2101
Transport vial with secure snap cap,
round bottom, 5 ml, single packed, sterilized  REF. : 19180/5006
EMBRYO TRANSFER IN SWINE

DeepBlue ET

Catheter for the non-surgical transfer of embryos in swine.

In cooperation with the University of Murcia in Spain, Minitube has developed a deep intrauterine catheter: the DeepBlue ET. This catheter is especially designed for the non-surgical embryo transfer in swine.

Your benefits

• Transfer of the embryos in the barn is possible without sedation of the sow.
• High level of hygiene: the hygienic sanitary sheath of the SafeBlue system protects the tip of the catheter during the canalization through the outer genital tract and thus avoids contamination of the uterus.
• High farrowing rate: several field trials prove the efficiency of the DeepBlue catheter. By a transfer of a mean of 24-30 embryos per sow, results of 70% conception rate and an average litter size of 7.5 have been recorded.

Technical features

• Outer catheter SafeBlue: disposable insemination catheter, with lubricant coated catheter head, individually packaged and sterilized.
• Inner catheter: flexible probe, 180 cm long, 4 mm external diameter, 0.5 mm internal diameter.
• Non-traumatic tip of the inner probe considers the special sensitivity of the uterus wall during the progesterone phase.
• Special design of the internal probe allows to reach the middle or the anterior third of the uterine horn.

DeepBlue ET Catheter

REF. : 19295/0200
Semen Freezing

Freezing extenders for boar semen

The freezing of boar semen is of great importance for the storage of genetic material in order to preserve and protect genetic variety. Furthermore, freezing facilitates the exchange of genetic material between geographically distanced breeding populations.

However, boar sperm are more sensitive to the processes of freezing than sperm of other species. The Minitube group provides a number of extender media, devices and procedures to reduce stress for boar sperm cells during the freezing process and to ensure insemination success with frozen semen.

Androstar® Premium with Gentamicin, thawing and fresh semen extender, for 1 liter of extender

REF. : 13533/1001

Androstar® CryoPlus freezing extender for boar semen, for 770 ml of extender

REF. : 13531/3001

Detergent Equex STM, component of boar semen freezing media, 30 g

REF. : 13560/0008

Glycerol 98%, 1 l

REF. : 21500/0090
SEmen Freezing

MPP Uno

Automatic filling and sealing machine for straws.
- Capacity: approx. 4000 straws/hour (0.25 or 0.5 ml straws)
- Machine dimensions: 370 x 460 x 320 mm (L x W x H) plus ultrasound generator
- Power supply: 110 V/60 Hz or 230 V/50 Hz
- Sealing performed by ultrasound
- Very compact device that takes up little space
- Very fast and easy cleaning

MPP Uno, complete  REF. : 13017/0000

EasyCoder

Clean and odorless printing of straws without ink and solvents.
- Thermal transfer printer with automatic straw supply (output: 3600 straws per hour) for immediately non-abrasive print
- Unparalleled neat and clear printing on 0.5 and 0.25 ml straws; easy and quick conversion between different straw sizes
- Prints up to 3 lines per straw, including barcodes, logos and specific characters
- Control via PC by a clear and user-friendly Minitube software
- Easy handling, little maintenance required
- Dimensions (L x W x H): 660 x 370 x 310 mm (PC not included)
- Power supply: 110 V/50-60 Hz or 230 V/50-60 Hz

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

MultiCoder

Professionalize your lab process with quick and easy machine readable labeling of samples.
- 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
- 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
**SEmen Freezing**

**Cooling cabinet**
- Cold handling box on rolls
- Temperature preset to 5°C
- Dimensions: 150 x 100 x 116 cm (W x D x H)
- Power supply: 220 V

Cooling cabinet  REF. : 14335/3000

**Refrigerated centrifuge**
- With swing out rotor, 4 buckets and 4 x 600 ml polypropylene bottles with caps
- All parameters programable, incl. precooling
- Speed selection in a range of 100 to 15,000 min⁻¹
- Memory for 10 programs
- Dimensions: 65 x 68.5 x 40.5 cm (W x L x H)
- Power supply: 230 V/50 Hz

Refrigerated centrifuge  REF. : 14602/0400

**Cryogenic containers**
Full range of cryogenic containers for storage and transport of frozen semen available. Please contact us for an individual offer!

**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>35°C</th>
<th>37°C</th>
<th>38°C</th>
<th>50°C</th>
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<td>17044/0038</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

www.minitube.com
Automatic freezer IceCube

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

Product features

- Temperature range: +40 to -180°C
- Freezing rates: 0.01 to 60°C/min
- Heating rates: 0.01 to 15°C/min
- Temperature measurement via 2 Pt-100 resistance thermometers
- Capacity: approx. 900 straws per freezing cycle
- Dimensions: 540 x 420 x 520 mm (L x W x H)
- Weight: 29 kg

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

IceCube 14S with connector kit for LN2 pressure container

(1) with 10" tablet  REF. : 16821/3000
with 12" touch screen monitor  REF. : 16821/2000
to be connected to PC or laptop
without monitor  REF. : 16821/1000
to be connected to PC or laptop

Accessories

(2) Rack for IceCube 14S, for 36 straws  REF. : 16821/5036
Loading device for straw rack  REF. : 16821/5037
(3) Handling rack for IceCube 14S  REF. : 16821/5030
(4) Spacer for IceCube 14S  REF. : 16821/5018
Liquid Nitrogen pressure container, 60 l  REF. : 16820/1900
Roller base for LN² pressure container  REF. : 16501/0204
(5) Pliers for racks  REF. : 16821/5031

Semen straws

Semen straw, 0.5 ml, clear, 2500/bag  REF. : 13408/0010

Semen straws made by Minitube are available in many different colors, and preprinted upon request.
Minitüb is an ISO 9001:2015 certified company.