## The Luebeck EUS Trainer - LET

The Luebeck EUS Trainer **LET** is a closed ex vivo bio-model for realistic training in invasive and interventional endoscopic ultrasound procedures (EUS) in the upper (oesophagus and stomach) and lower (rectum) gastro-intestinal tract. The **LET** can be used in gastroenterological, surgical and urological training with longitudinal EUS probes, or rigid, rectal ultrasound probes.

- EUS-FNA of artificial objects
- EUS-guided cyst drainage
- EUS-guided bile duct interventions
- EUS-guided entero-enteral anastomosis
- Urological interventions



The **LET** is approved for veterinary EUS equipment only.



Dimensions (width  $\times$  depth  $\times$  height): 56 cm  $\times$  45 cm  $\times$  24 cm Weight: 25 kg

### Concept and design

#### Dr. E. Burmester

Department of Medicine I – Endoscopy, Sana Kliniken Lübeck GmbH Kronsforder Allee 71–73, 23560 Lübeck, Germany

Phone +49 451 / 585 - 14 05 Fax +49 451 / 585 - 14 07 Mobile +49 160 / 17 393 17

Email info@luebeck-eus-trainer.com

Website www.sana-luebeck.de



Sana Kliniken Lübeck

### Development and shipping of organs and accessory parts

## Forschungszentrum Ultraschall gGmbH

Köthener Str. 33a, 06118 Halle (Saale), Germany

Phone +49 345 / 44 58 39 - 10 Fax +49 345 / 44 58 39 - 19

Email kontakt@fz-u.de
Website www.fz-u.de



Forschungszentrum Ultraschall

#### Sales

#### MC & C GmbH

Richard Panczocha

Alter Postweg 38a, 24558 Henstedt-Ulzburg, Germany

Mobile (+49) 172 315 36 56 Email rp@mccgmbh.de

Website www.luebeck-eus-trainer.com







# Features at a glance



- Realistic endosonographic interventions on porcine organs
- Good sonographic visibility of the artificial biopsy objects
- Stable positioning of organs and biopsy objects by integration in a matrix
- Reduction of air artefacts by embedding the organs and biopsy objects in water and an optimised matrix
- Externally refillable cysts
- Integrated neutral electrode for use in electrosurgery
- Suitable for radioscopy (X-ray and CT)
- Can also be used with CT image fusion systems (prostate/rectum) as required
- Odourless integration of organs into a closed system
- Easily fillable case with separately delivered organs and consumables
- Assembly time of approximately 30 minutes
- Suitable for training at various levels of difficulty
- Ideal for team training

# LET case and connections









- 1 Case lid
- 2 Case base
- 3 Carrying handle
- 4 Snap-close locks
- 5 Rotary valve (without function)
- 6 Connection jack for HF surgical equipment

- 7 Pressure equalisation valve
- 8 Fill level indicator
- 9 Connection valves for filling the urinary bladder and "pseudocysts"
- 10 Connection valve for water inlet/outlet
- 11 Inlet tube for the rectal-sided endoscope
- 12 Inlet tube for the stomach-sided endoscope

# The LET in practice



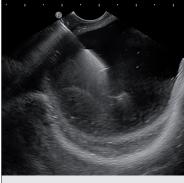




Organs integrated into the matrix



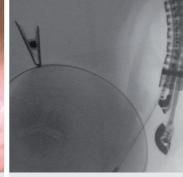
CT topogram of organs and biopsy objects







Stomach cavity with wire inserted



Contrast radiography of "pseudocyst" with wire