CRYO SURGERY – VERSATILE AND EFFECTIVE.
The ERBOCRYO CA is an interdisciplinary cryo system which operates according to the principle of the Joule-Thomson effect. The basic principle: the expansion of a pressurized gas will result in a drop in temperature. During cryotherapy the low temperature is transferred to the target tissue via applicators or probes used to devitalize or remove tissue anomalies.

The freezing process is activated by pressing the footswitch. Within 5 seconds the minimum freezing temperature is reached. Deactivation (release of the footswitch) will terminate the freezing stage. The probe will unfreeze within 5 seconds without any electrical heating.

The advantages at a glance

- Numerous indications treatable using wide selection of cryoprobes and probe tips, useful in many surgical specialties
- Many interventions can be carried out on an outpatient basis without anesthesia
- No bleeding during treatment or when the necrotized tissue is shed
- Almost no scarring after healing
- Coolant: nitrous oxide (N₂O) or carbon dioxide (CO₂)
- All cryoprobes can be steam autoclaved up to 134° C (short cycle)
**Phlebology**
During the cryostripping of varicose veins the probe is inserted via an incision and pushed forward until reaching the point of insufficiency and the varicose veins are subsequently extracted. The spasm induced by the cold reduces the formation of hematomas along the entire length of the vein and contributes to the thrombotic obliteration of the vessel, giving optimum cosmetic result postoperatively.
Additional advantages: reduced risk of damage to nerves, short operating times, cost-effective procedure.

**Interventional bronchoscopy**
The cryo technique is a simple and effective method for immediate recanalization of stenoses in the tracheo-bronchial tract.
Benign and malignant tumors as well as foreign bodies are frozen to the flexible cryoprobe and extracted via an endoscope.
No full anesthesia required.

**Cryo surgery for biopsies**
In addition to the recanalization of stenoses of the respiratory tract the cryoprobe can be used to take biopsies in the respiratory passages. Cryoprobe biopsies are far superior to forceps biopsies with respect to both size and suitability for histological assessment.

**Areas of application for the ERBOKRYO CA**

- **Pneumology:** bronchial stenoses, cryo recanalization, cryo biopsies
- **Phlebology:** varicose veins of the lower limbs (cryostripping)
- **Thoracic surgery:** postoperative cryo analgesia (cryo devitalization of the intercostal nerve)
- **Gynecology:** cervical ectopias and condylomas
- **Proctology:** inner hemorrhoids of the first and second degree, acute anal fissures
- **ENT:** hemangiomas, papillomas, etc.
- **Dermatology:** warts, condylomas, etc.
**LARGE CHOICE OF APPLICATORS, PROBES ...**

<table>
<thead>
<tr>
<th>Cryoprobe</th>
<th>Code</th>
</tr>
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<tbody>
<tr>
<td>R4L5</td>
<td>20416-000</td>
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<tr>
<td>R3L5</td>
<td>20416-001</td>
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<td>R2L2</td>
<td>20416-002</td>
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<td>F11</td>
<td>20416-003</td>
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<tr>
<td>R5L10</td>
<td>20416-004</td>
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Cryoanalgesia probe, trocar, angled, Ø 0.3 mm 20446-003
Angiology cryoprobe Ø 1.5 mm, L 80 mm 20447-000
Angiology cryoprobe Ø 2.5 mm, L 200 mm 20447-002
Angiology cryoprobe Ø 3.5 mm, L 550 mm 20447-004
Bronchoscopy cryoprobe Ø 3.0 mm, L 530 mm 20447-005

Flexible cryoprobe, Ø 2.4 mm, L 900 mm 20416-032
Flexible cryoprobe, Ø 2.4 mm, L 780 mm 20416-033
Connecting adapter for flexible cryoprobes (ErboKryo CA and AE) 20416-034
... AND PROBE TIPS.

- Cryo probe tip Ø3L2.6
  - 20420-010

- Cryo probe tip Ø9.5; conic
  - 20420-012

- Cryo probe tip Ø9.5; oval
  - 20420-013

- Cryo probe tip; portio ectopy
  - 20420-014

- Cryo probe tip; portio ectopy
  - 20420-015

- Cryo probe tip Ø19; flat
  - 20420-016

- Cryo probe tip; portio ectopy
  - 20420-020

- Cryo probe tip; portio ectopy
  - 20420-021

- Cryo probe tip; portio ectopy
  - 20420-022

- Cryo probe tip; portio ectopy
  - 20420-023

- Cryo probe tip Ø18L23.5
  - 20420-024

- Multipurpose probe, L 180 mm, incl. tip 20420-012
  - 20416-006

- Multipurpose probe, L 60 mm, incl. tip 20420-012
  - 20416-005

- Multipurpose probe (incl. 20420-012)
  - 20416-006 (incl. 20420-012)

- Multipurpose probe (incl. 20420-012)
  - 20416-005 (incl. 20420-012)
ORDER NUMBERS/TECHNICAL DATA.

ERBOKRYO CA 230 V, with mains cable and cart 10448-000
ERBOKRYO CA 115 V, with mains cable and cart 10448-003
ERBOKRYO CA 120 V/UL, with mains cable and cart 10448-004
Footswitch, explosion-proof 20711-008
Footswitch, non explosion-proof 20711-009
Cylinder cover for N₂O cylinders, (German standard) 20410-039
Sterilizing box for cryopencils, small 20410-034
Sterilizing box for cryopencils, large 20410-035
Gas hose 20448-000
Gas filter N₂O R 3/8" 20410-006
Gas filter for CO₂ W 21.8 x 1/14" r 20410-010
Filter cartridges 20410-008
Cylinder connector for N₂O 20410-001
Cylinder connector (UK, Greece) 20410-002
Cylinder connector for CO₂ 20410-003
Cylinder connector (GB, F, USA) pin index 3+5 for N₂O 20410-005
Cylinder connector M 22 x 1.5 (CIS) 20410-013
Cylinder connector for Russia for CO₂ M 26 x 1.5 20410-016
Cylinder connector (GB, F, USA) for CO₂ 20410-011
Cylinder connector for Mexico 20410-040

<table>
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<tr>
<th>Mains connection</th>
<th>100/120 V, 115 V, 230 V, +/- 10 %, 50/60 Hz</th>
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<tbody>
<tr>
<td>Coolant</td>
<td>N₂O or CO₂</td>
</tr>
<tr>
<td>Operating pressure</td>
<td>40 – 60 bar</td>
</tr>
<tr>
<td>Gas consumption for freezing</td>
<td>ca. 35 g – 50 g/min</td>
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<tr>
<td>Gas consumption for defrosting</td>
<td>ca. 3 g</td>
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<tr>
<td>max. exhaust gas volume</td>
<td>40 – 60 l/min</td>
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<tr>
<td>Dimensions incl. cart</td>
<td>327 x 960 x 400 mm = W x H x D</td>
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<tr>
<td>Net weight</td>
<td>13.2 kg</td>
</tr>
<tr>
<td>Max. absorbed power</td>
<td>35 Watt</td>
</tr>
</tbody>
</table>

Subject to alterations
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WATERJETSURGERY
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