SMALL ENOUGH TO CARE
BIG ENOUGH TO DARE
Who we are

A Slovenian-based family company.

With 30 years of experience, Kambič is a specialized supplier in the field of design, production and validation of laboratory and process equipment.

Our goal is to be the preferred partner delivering the ideal balance between optimized solutions, quality and investment costs.

What we do

All under one roof:
- R&D of mechanical components and solutions
- R&D of electronics and SW
- Manufacturing
- Testing, calibrating and validating
- Customer support, on-site service

Semič / Slovenia-EU

Partnership counts!

Superior customer support!

Tailoring available!

Ultimate price-performance ratio!
Product families

- Climatic Chambers
- Walk-in Climatic Chambers
- Stability Testing Climatic Chambers
- Plant Growth Chambers
- Performance Ovens
- High Temperature Ovens
- Vacuum Ovens
- Laboratory Freeze Dryers
- Industrial Freeze Dryers
- Pass Boxes
- Vacuum Modified Atmosphere Packing Systems
- Tailored Equipment
Climatic Chambers

- Temperature and humidity control
- Maintaining superior temperature & Rh stability
- Accelerated ageing
- Stress tests

Climatic Chamber

Model: KK-1000 CHLT

Volume: 1000 L
Temperature range: -40 °C…+180 °C
Temperature stability:
±0.5 °C @ -40 °C
±0.04 °C @ 50 °C 50% Rh
±0.1 °C @ 90 °C 90% Rh
±0.1 °C @ 180 °C
Relative humidity range: 10 %... 98 %
Temperature uniformity:
±0.5 °C @ -40 °C
±0.4 °C @ 50 °C 50% Rh
±0.5 °C @ 90 °C 90% Rh
±1.0 °C @ 180 °C

Optional water cooling
Optional fast cooling rate up to 10 K/min

*More details in the dedicated Technical Data Sheet.*
Walk-in Climatic Chambers

- Temperature and relative humidity controlled environment
- Stability testing
- Maintaining superior temperature & Rh stability
- Sample conditioning prior to other tests
- Accelerated ageing

- Stress tests
- Rain simulation (optional)
- Wind simulation (optional)
- Radiation simulation (optional)

Compressor based refrigeration system. Condensing unit mounted on the top of the chamber or placed in any other spot of the chamber.

PLC based controller. Simple and effective programming of all processes. SW pack for PC available.

Electronics compartment. Mounted on the chamber or remote location.

Extensive heat insulation. Various insulation panel thicknesses.

Access port with both end plugs Ø40, Ø50 or Ø90.

Heavy duty closing mechanism with safety unlocking system from interior.

Fully stainless steel interior. Exterior powder coated RAL 9010 (other colors available on request).

Sealed and extensively heat insulated door – Various sizes available.

Door observation window.

Backup unit (optional).

1 2 3 4 5 6 7 8 9 10

Open air installation:

Open room installation:

*More details in the dedicated Technical Data Sheet.
Stability Testing Climatic Chambers

Perfect tool for stability testing in pharmaceutical Industry.

- Following ICH guidelines
- GMP Qualification package available
- Number of different volumes available
- Calibrated at all ICH points

Stability testing climatic chambers

Model: KK-1300 CHS

Volume: 1300 L
Temperature range: +10 °C…+60 °C
Temperature stability: ±0.1 °C
Temperature uniformity: ±0.8 °C @ 25 °C / 60 Rh
±0.8 °C @ 40 °C / 75 Rh

More details in the dedicated Technical Data Sheet.
Plant Growth Chambers

- Three different sizes (small, medium, large)
- Easy to use fully programmable controller
- State of the art repeatability
- Day light simulation control
- Relative humidity control
- Temperature control
- CO₂ control (optional)

Plant Growth Chamber

Model: RK-340 CHCO₂

Volume: 340 L
Temperature range: 0 °C…+60 °C – Night
+10 °C…+60 °C – Day
CO₂ range: 0%…20%

CHAMBER SIZE  | CHAMBER VOLUME IN LITERS  | EXTERIOR DIMENSIONS (WXDXH) in mm  | INTERIOR DIMENSIONS (WXDXH) in mm
---|---|---|---
340  | 834 x 1895 x 1135  | 600 x 830 x 685  
500  | 1600 x 1980 x 700  | 680 x 1400 x 520  
1000  | 2040 x 1983 x 886  | 1045 x 1400 x 700  

*More details in the dedicated Technical Data Sheet.
Performance Ovens

Drying, heat treatment, surface treatment, curing all at precise temperatures.
- Pilot & research hot air drying
- Drying after washing
- Material preheating
- Hot air sterilization
- Tooling preheating
- Fills curing

Performance Oven

Model: SP-910 C

Volume: 910 L
Temperature range: Tambient +5 °C... +300 °C
Temperature stability: ±0.1 °C
Temperature uniformity:
- ±1.3 @ 60 °C
- ±1.7 @ 100 °C
- ±3.5 @ 200 °C
With accessories: Exhaust fan unit

Performance Oven

Model: SP-190 C

Volume: 190 L
Temperature range: Tambient +5 °C... +300 °C
Temperature stability: ±0.1 °C
Temperature uniformity:
- ±0.3 @ 60 °C
- ±0.7 @ 100 °C
- ±1.0 @ 200 °C
With accessories: Cut out notch 100 x 50 mm
- 2x access port Ø90 mm
- Observation window with chamber illumination

Performance Oven

Model: SP-55 C

Volume: 55 L
Temperature range: Tambient +5 °C... +300 °C
Temperature stability: ±0.1 °C
Temperature uniformity:

Performance Oven

Model: SP-105 C

Volume: 105 L
Temperature range: Tambient +5 °C... +300 °C
Temperature stability: ±0.1 °C
Temperature uniformity:

Performance Oven

Model: SP-440 C

Volume: 440 L
Temperature range: Tambient +5 °C... +300 °C
Temperature stability: ±0.1 °C
Temperature uniformity:

Performance Oven

Model: SP-910 C

Volume: 910 L
Temperature range: Tambient +5 °C... +300 °C
Temperature stability: ±0.1 °C
Temperature uniformity:

Performance Oven

Model: SP-1300 C

Volume: 1300 L
Temperature range: Tambient +5 °C... +300 °C
Temperature stability: ±0.1 °C
Temperature uniformity:

*More details in the dedicated Technical Data Sheet.*
High Temperature Ovens

Heat treatment, surface treatment, curing all at precise temperature.
• Heat treatment for stress release
• Heat treatment for sintering
• High temperature drying
• Molds preheating
• Fills curing

High Temperature Oven
Model: SP-875 C FIRE
Volume: 875 L
Temperature range: Tambient +10 °C... +600 °C
Temperature stability: ±1.0 °C @ 350 °C

- PLC based controller. Simple and effective programming of all process steps, including optional manual controls.
- RS-232, USB or Ethernet communication ports.
- Adjustable over temperature shutdown.
- Main switch with power phase indicator.
- High capacity fan for air circulation in chamber. Ensuring temperature stability and uniformity.
- Height adjustable shelves (additional shelves optional).
- Heavy duty closing mechanism with adjustable position / closing force.
- Chamber door with floating inner insulation door ensuring low surface temperature even at max temperature.
- Fully enclosed design with AISI 304 stainless steel exterior.
- AISI 304 stainless steel chamber, designed for temperatures up to 600 °C.
- Industrial heavy duty temperature sensor.

<table>
<thead>
<tr>
<th>CHAMBER SIZE</th>
<th>EXTERIOR DIMENSIONS (WXHXD) in mm</th>
<th>INTERIOR DIMENSIONS (WXHXD) in mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>712 x 673 x 655</td>
<td>400 x 400 x 400</td>
</tr>
<tr>
<td>190</td>
<td>942 x 883 x 836</td>
<td>600 x 600 x 643</td>
</tr>
<tr>
<td>420</td>
<td>1062 x 973 x 1030</td>
<td>750 x 700 x 755</td>
</tr>
<tr>
<td>875</td>
<td>1461 x 708 x 1066</td>
<td>998 x 1250 x 700</td>
</tr>
</tbody>
</table>

*More details in the dedicated Technical Data Sheet.
Vacuum Ovens

Drying in vacuum down to 1 mbar with heated shelves.
- Determination of vacuum drying process parameters
- Low temperature evaporation
- Drying curves determination
- Dry mass determination
- Pilot vacuum drying

Vacuum Oven
Model: VS-130 SC
Volume: 130 L
Temperature range: Tambient... +200 °C
Temperature stability: ±0.1 °C
Temperature uniformity:
+0.5 °C @ 60 °C
+0.6 °C @ 100 °C
+1.6 °C @ 150 °C
With accessories:
Additional access flange (100 x 400 mm)
Trolley
Vacuum pump

Vacuum Oven
Model: VS-8 SC
Volume: 8 L
Temperature range: Tambient +5 °C... +200 °C
Temperature stability: ±0.1 °C
Temperature uniformity:
+0.5 °C @ 60 °C
+0.5 °C @ 100 °C
+0.8 °C @ 150 °C
+1.3 °C @ 200 °C

*More details in the dedicated Technical Data Sheet.*
Laboratory Freeze Dryers

Refined solution for laboratory and R&D freeze drying.

- Preservation of bacteria and viruses
- Freezing cycle development
- Freeze drying recipe optimization
- Research

Laboratory Freeze Dryer

Model: Liosmart 8/5P

Ice condenser performance: 4 kg/24h
Ice condenser temperature: -55 °C/-95 °C (optional)

Shelf surface capacity: 0.18 m²
Shelf temperature range: -40 °C...+60 °C

- Cylindrical AISI 304 stainless steel condenser, polished to Ra<0.5 μm with flat connecting flange for simple installation of accessories.
- Fully enclosed design with powder coated exterior.
- Trolley for LIO-5 P and LIO-5 PLT.
- Drain and vacuum break valve.
- Vacuum control valve (optional).
- Vacuum pump equipped with oil mist filter and all the necessary connection tubes and clamps.
- Touch screen based controller with user friendly interface, history graph advance settings options RS-232, USB or Ethernet communication ports.
- Pirani vacuum gauge for pressure monitoring and control.
- Vacuum control for ultimate performance (optional).

- 8 port manifold for freeze drying from glass flasks.
- Transparent cylinder with 6 trays. Each tray Ø 250 mm.
- Transparent cylinder with 2 heated and temp. controlled shelves. Each tray Ø 200 mm.
- Transparent cylinder with 4 stoppering shelves and guard trays Ø 200 mm.

<table>
<thead>
<tr>
<th>MODEL</th>
<th>Total condenser capacity</th>
<th>Condenser temperature (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIO-5 P</td>
<td>5</td>
<td>-55</td>
</tr>
<tr>
<td>LIO-5 PLT</td>
<td>5</td>
<td>-100</td>
</tr>
<tr>
<td>LIO-8/5P</td>
<td>6</td>
<td>-55/-95</td>
</tr>
</tbody>
</table>

*More details in the dedicated Technical Data Sheet.
Industrial Freeze Dryers

Refined solution for rapid, repeatable small or industrial scale freeze drying.

- Dairy products (milk, starter cultures, yoghurts, probiotics, ice-cream,...)
- Vegetables & fruits (strawberries, figs, beans,...)
- Fish & meat
- Floral

Industrial Freeze Dryer

Model: LIO-25 FP

- New tool for economical and productive freeze-drying
- 2.5 m² shelf area
- Shelf temperature control heating function only
- -55 °C condenser coil temperature
- 50 recipes, each with up to 50 segments
- Software packet with remote control via virtual user interface
- Single compressor refrigeration system
- Dry vacuum pump build-in frame

Industrial Scale Freeze Dryer

Model: LIO-300 FP

- Ice condenser capacity: 300 kg
- Ice condenser temperature: -50 °C
- Shelf surface capacity: 3 trolleys, each with 25 trays
- Total trays capacity: 19.5 m²

*More details in the dedicated Technical Data Sheet.
Pass Box
Pass-Through Chamber. Material Transfer Hatch.
- Stainless steel interior & exterior housing with mirror polish finish
- Large radius corners making it perfectly cleanable & sealable
- Single-handed operation
- Power supply free innovative reliable interlock (mechanical)
- Installation parts included as standard
- Variety of accessories and dimensions
- Tempered 12 mm full glass door
- More than 500 installations worldwide

Pass Box
Model: PB-6/6/6 UV
Internal dimensions: 600 x 600 x 600 mm
External dimensions: 700 x 700 x 700 mm
Equipment:
- Both sides HMI, UV decontamination

1. PLC based controller with LED semaphore, Two line LCD display on both sides. Variety of options.
2. DOP test connection (optional).
4. Differential pressure manometer (Filter saturation).
5. Stainless steel construction AISI 304 or AISI 316 (optional).
6. UV sterilization (optional).
7. Covering frame for both sides.
8. Mechanical or electromechanical interlock with key lockable handle.
9. Height adjustable supporting leg or wall console.
11. Shelves or tailored racks (optional).
13. Perfectly round corners ensuring simple and effective easy cleaning.
14. Fully tempered glass door for ultimate visibility, UV protection (optional).
15. Flat floor design for simple trolley push through (optional).

*More details in the dedicated Technical Data Sheet.
Vacuum Modified Atmosphere Packing Systems

- Packaging in oxygen free atmosphere
- Oxygen atmosphere analysis for each cycle/packet
- Packaging in ALU PVC bags
- Isolation of container
- Capacity range from 0.7 m³ up to 8 m³
- Clean room installation

Vacuum Modified Atmosphere Packing System

Model: VKN-3780

- Internal dimensions: 1400 x 2000 x 1350 mm (WxHxD)
- Volume: 3.7 m³
- Parts in contact with product: AISI 316
- Automation: Siemens
- Vacuum pump capacity: 500 m³/h
- Ultimate oxygen concentration: Lower than 0.2 % O₂

Bag sealer
- Welding sides: 2
- Welding stripes length: 1200 mm
- No. of parallel welds: 2

Container Vacuum modified Atmosphere packing system

Model: VKN-8000

- Interior dimensions: 1800 x 2700 x 1700 mm (WxHxD)
- Volume: 8 m³
- Parts in contact with product: AISI 316
- Automation: Siemens
- Vacuum pump capacity: 500 m³/h
- Ultimate oxygen concentration: Lower than 0.2 % O₂
- Container sizes: 400 L, 500 L, 800 L, 2400 L
- Clean and dry: CIP

*More details in the dedicated Technical Data Sheet.*
Tailored Equipment

Lab Coil Coating Curing Oven
Model: LSP-140 C
- Designed to assist in industrial processes of COIL COATING and HOT AIR CYCLE in lab environment
- Constant fresh air supply in safety function
- Door latch with an auto open feature in case of overpressure in chamber
- Single-handed operation door
- Rotating pin point shelf in chamber
- Extra-large digital countdown timer display
- Superior heat insulated doors and housing

Recirculating Cooling & Heating System
Chiller / Process Thermostat
Model: HS-10 DVP
- Huge cooling capacity over full temperature range
- Rapid temperature change due to optimized fluid capacity
- Water cooled single compressor cooling system
- Large capacity circulation pump
- Fully stainless steel enclosure
- Advanced fully programmable controller
- Respectable heating capacity
- Cooling capacity even at high temperatures

*More details in the dedicated Technical Data Sheet.*
Tailored Equipment

**Ultra-Fast Temperature Chamber for Field Use**

Model: TK-1000 CKLTUF
- Temperature range extended from -50 °C...+180 °C
- Fast cool down rate 6°C/min (EN 60068-3-5)
- Air-cooled single-stage refrigeration system designed for tropical environment
- Single wing door for maximum accessibility
- Fully programmable user-friendly controller
- Enveloped in heavy duty container for safe transportation and field use

**Pharma Compressed Air Heating System**

Model: GKZ-02
- Designed for clean heating of pharmaceutical grade compressed air
- No air contamination through heating process (no filters required)
- All contact surfaces AISI 316 L
- Designed to be used in a clean room environment
- All contact surfaces polished to Ra < 0.5 µm
- Exterior body AISI 304
- Compact mobile design
- Max air flow: 1200 L/min

*More details in the dedicated Technical Data Sheet.*
Worldwide partners & customers:

Industries
Pharmacy
Electronics
Chemical
Mechanical
Automotive
Aviation
Testing facilities
R & D institutes
Universities
Biotechnology
Food