

# Company Presentation

of

# PINK GmbH Vakuumtechnik

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## History

- 1986 Mr. Friedrich Pink started with 10 employees and founded the PINK GmbH Vakuumtechnik
- 1992 Spin-off of "Drying and Processing Technology" foundation of PINK GmbH Thermosysteme
- 2007 Acquisition of Plasma-finish GmbH, Schwedt, renamed in PINK GmbH Plasma-finish
- 2010 Fusion of PINK GmbH Thermosysteme and PINK GmbH Plasma-finish to PINK GmbH Thermosysteme
- Today PINK employs a workforce of around 250 and has about 30 apprentices



## PiNK GmbH

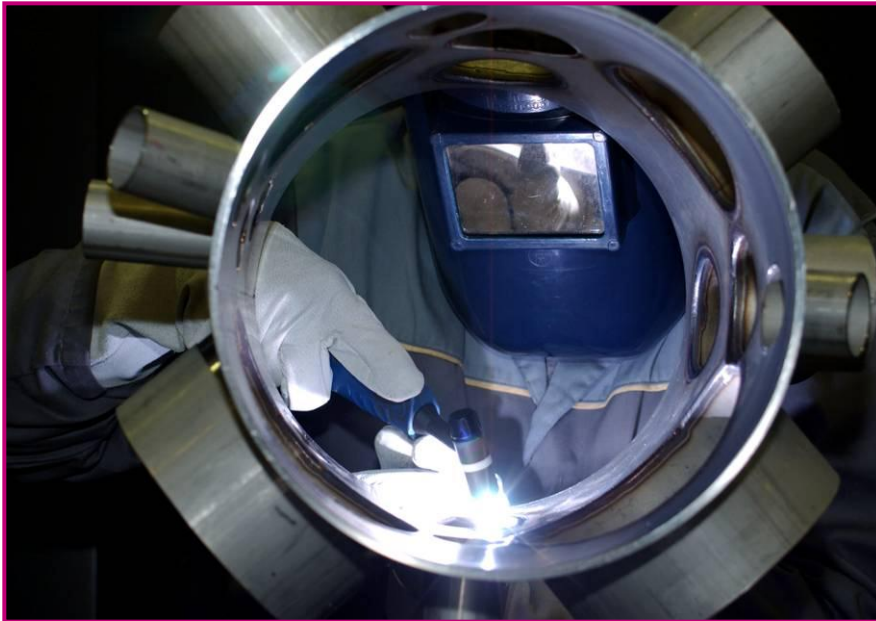
### Thermosysteme

- Vacuum drying ofens
- Vacuum rotary dryers
- Vacuum soldering systems (VADU)
- Low-pressure plasma systems for surface treatment

### Vakuumentchnik

- Vacuum components
- Accelerator technology
- UHV technology
- Coating technology
- Aerospace technology
- Heat technology
- Helium leak test systems

## Innovative production engineering



From one source:

- Engineering design
- Electrical engineering/electronics
- Welding
- Machining
- Programming of SPC / Visualisation
- After-treatment, testing, servicing

## Welding



Electron-beam welding unit.

PiNK's welders are fully certified to use all the leading processes such as

- WIG
- MIG/MAG
- microplasma
- orbital welding
- electron-beam welding

## Quality, precision and productivity

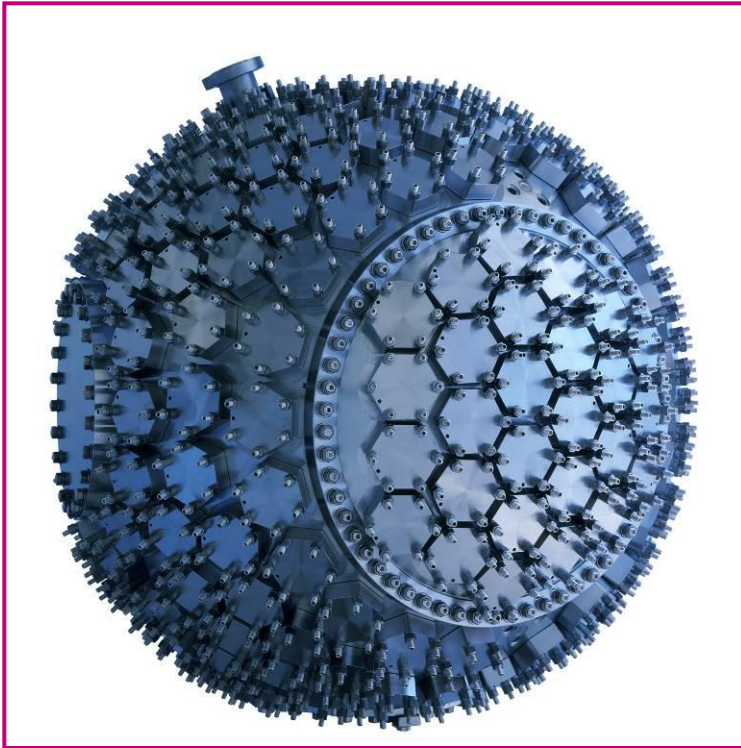


5-axis CNC machining center  
for large components.

## Machining

- CNC turning up to 1800mm dia.
- 5-axis CNC machining  
e.g.  $x=8000\text{mm}$ ,  $y=3100\text{mm}$ ,  $z=1500\text{mm}$
- CNC milling and boring centers
- CNC cutting, edging and punching
- Water jet cutting

## Competence in components



Chamber for multi-coincidence photoelectron spectroscopy

### Components for vacuum technology

- Small flange components KF
- Clamping flange components ISO-K
- Components CF-/COF
- Edge welded bellows
- Valves
- Gas locks
- Vacuum pump accessories
- Feed-throughs
- Manipulators
- Special components built to customer specifications

## Standard and special vacuum components



Standard components for high and ultra-high vacuum applications.



## Out in space

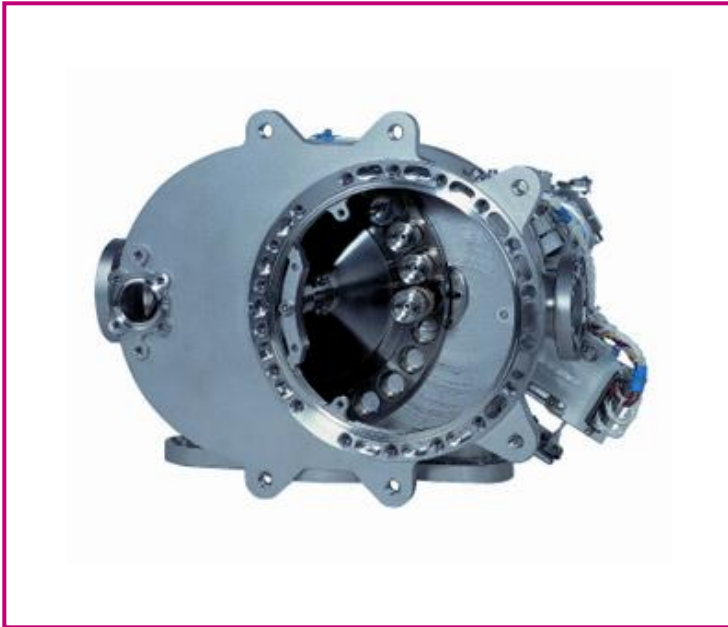


PINK employee product testing during a parabolic flight.

We have a long-standing experience in the field of ultra-high-vacuum technology (UHV). Backed by this core capability we supply our products to leading manufacturers in the aerospace sector as well as research and scientific institutes.

The aerospace product range extends from one-off system for space travel projects to individual UHV components for downstream system integration.

## Products for aerospace technology



Unit for crucible-free remelting of metallic materials under gravity-free ISS conditions.



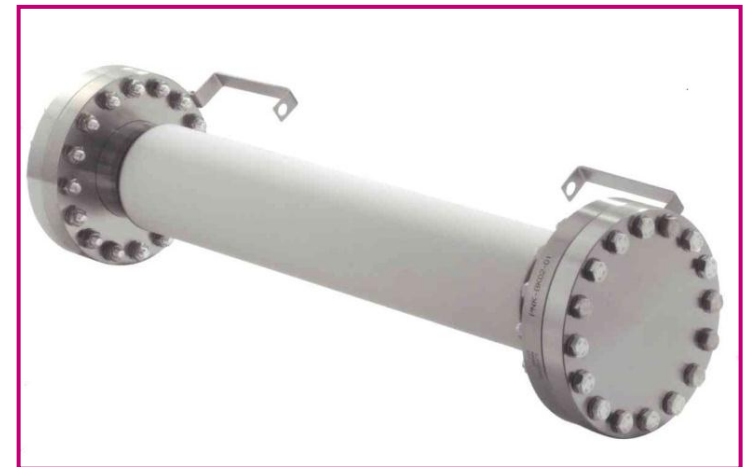
Ground unit for testing and conditioning life-support system components in the ISS, built in international association in accordance with outer space specs.

## Minute particles



Dipole chamber for synchrotron ring

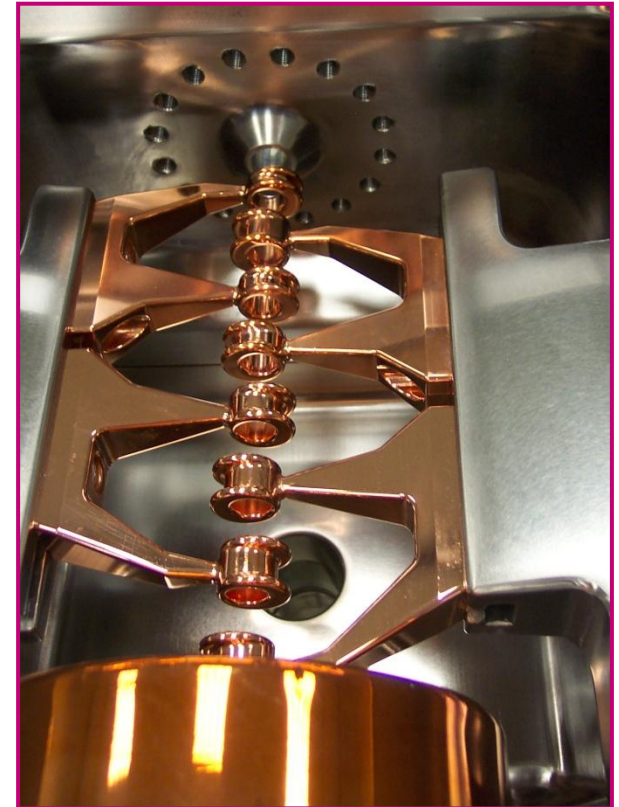
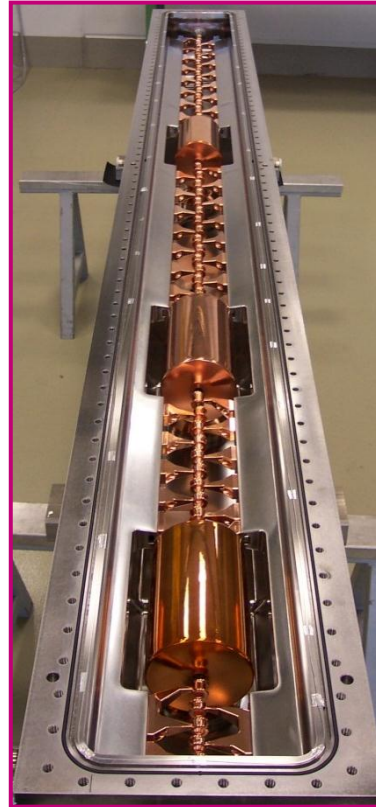
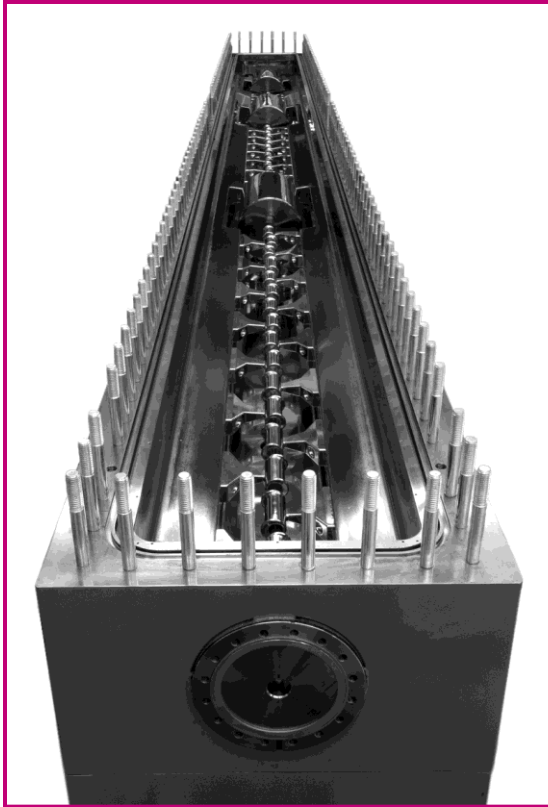
Bumper chamber



PiNK also produces UHV components for medical technology such as heavy ion accelerators for treating brain tumors.

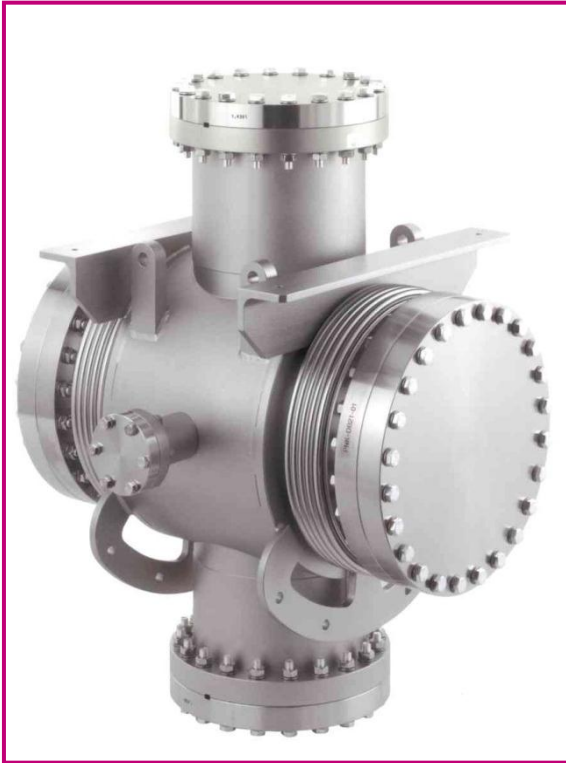
The product range reaches from dipole, quadrupole and sextupole chambers via diagnosis chambers and ceramic chambers to IH structures

## Accelerator systems



Interdigital H-field structure, used in the LINAC section of tumor therapy accelerators.

## Accelerator systems



Diagnosis chamber for accelerator.

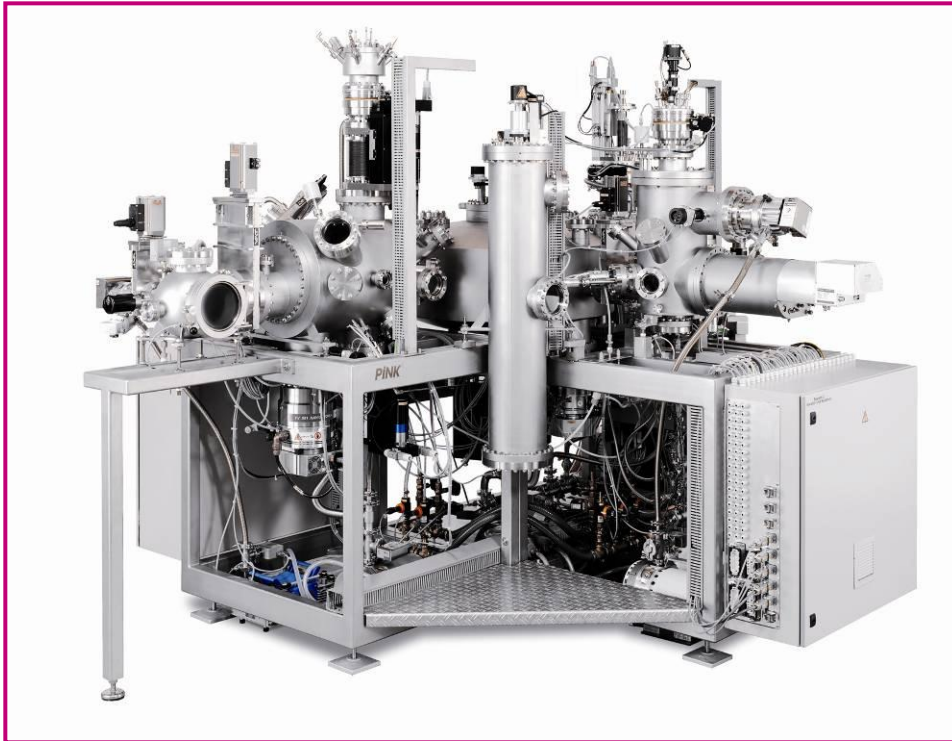


Copper beryllium spring; passage between two chamber profiles.



Switching mirror units for selectively diverting synchrotron radiation.

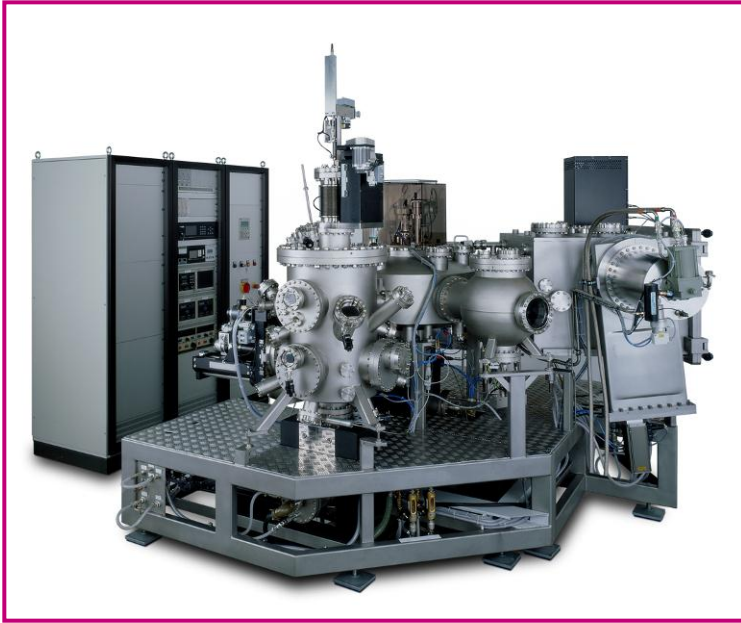
## High-precision coating



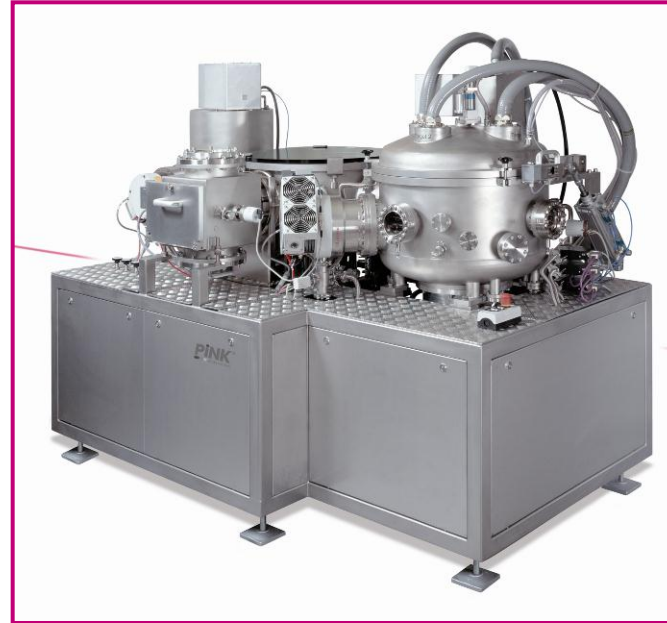
Based on UHV experience, PINK develops and produces customized UHV coating systems.

The range extends from magnetron sputter systems working according to the cathode sputter electrode principle to modular systems fitted with Pulsed Laser Deposition and used for producing and analyzing thin layers such as cuprate supra conductors, layer manganates, heteroepitactic hybrid structures or metallic thin films.

## UHV coating technologies



Cluster tool coating system for producing X-ray mirrors.



Magnetron sputter unit for simultaneously coating four substrates, dia. 150 mm.

## Cleanest conditions



PiNK has two clean rooms for assembly of both series of individual parts as well as entire systems.

PiNK also provides assembly services under cleanroom conditions and runs clean rooms acc. to class 1,000 and class 10,000.

According to customer specifications, highly sensitive parts and components can be assembled in a clean-room atmosphere.

Such products assembled under cleanroom atmosphere include parts for electron microscopes used in semiconductor production and reactors for producing LEDs.



## Customer-commissioned clean-room assembly



Assembly under clean-room conditions.



## Quality system

- Quality assurance acc. to DIN ISO 9001:2008, KTA 1401 and AVS D 100/50
- Welding technology authorization acc. to AD 2000 - Data Sheet HP 0 / DIN EN ISO 3834-2 / HP 100 R / TRD 201
- Further project related authorizations

Typical quality tests:

- geometrical measurement
- leak test
- bake-out test (up to 250°C)
- pressure test



Thank you for your attention!

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