

MATERIAL SOLUTIONS

HIGH VACUUM BRAZING

VI.Braze PRODUCT FAMILY

JOINING PROCESS OF HIGHEST QUALITY IN BIG BATCHES

High-vacuum brazing for large batches, built for industries where purity and precision decide product performance. VI.Braze delivers vacuum-tight, oxidation-free joints at scale — for vacuum interrupters, aerospace components and power electronics. Reliable. Repeatable. Made in Germany.

[PVATEPLA.COM](https://pvatepla.com)

PVA  **TePla**

THE SYSTEM

VI.Braze

BIG. FAST. CLEAN.

Porous, oxidized braze joints compromise reliability in vacuum interrupters and aerospace parts. VI.Braze eliminates both – ultra-high vacuum, fast cycles, uncompromising quality at scale.

The VI.Braze series is our metallically heated high-vacuum furnace family built for industrial large-batch production. Equipped with turbomolecular pumps, a fast-cooling system and a generous usable volume, it achieves the highest vacuum levels at low operating cost. Its vacuum-tight, wall-integration-ready design and robust construction make these furnaces ideal for vacuum interrupter manufacturing and demanding brazing processes across aerospace, energy and electronics. We rely on premium components and strict quality control to ensure outstanding reliability and a long service life. Our global service team supports you with maintenance, adjustments and upgrades – keeping you ready for the future.



Highest vacuum levels

For oxidation-free joints



Wall-integration ready

Fits cleanroom setups



Built for large batches

Up to 1,400 kg per cycle



Global service team

Support, upgrades worldwide



Fast-cooling system

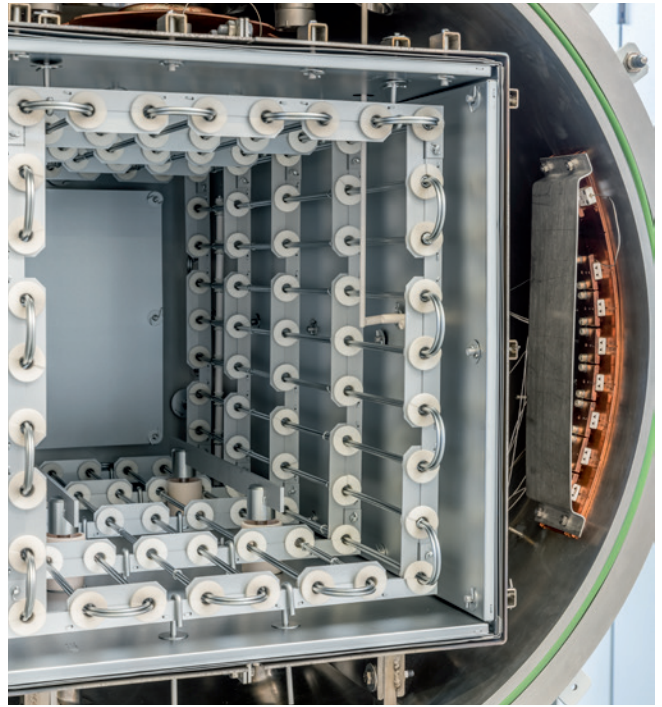
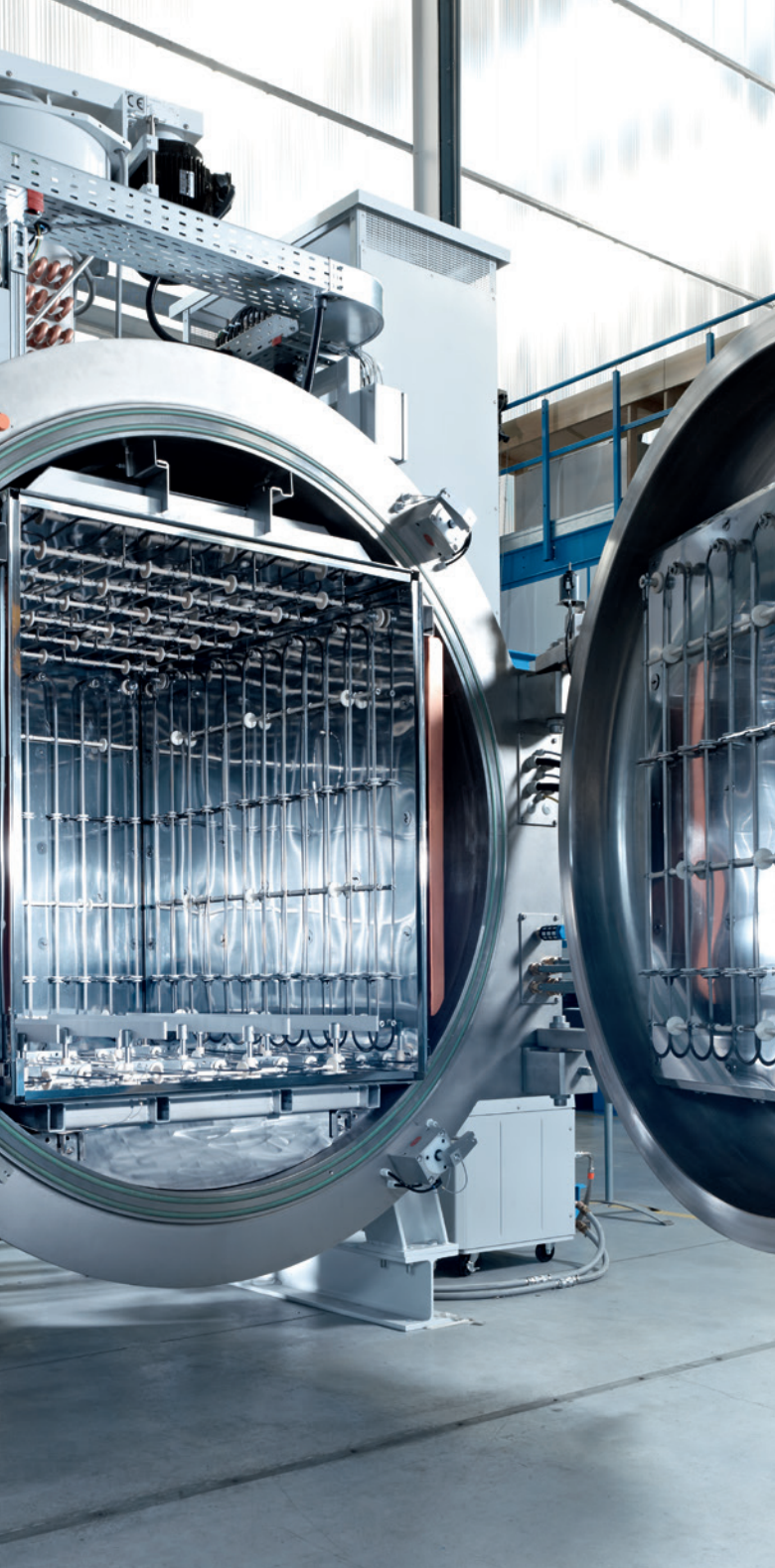
Shorter cycle times



Modular & flexible

Tailored to your own process





CUSTOMIZATION MODULAR SYSTEM OPTIONS

- **Second gas line**
Ar/N₂ or H₂, stationary or streaming
- **Optional middle heater**
Increased radiation surface for shorter process times
- **Chiller for cooling water**
When no on-site supply is available
- **AMS 2750H trim**
For aerospace-grade documentation
- **High-efficiency package**
Lowers energy consumption and costs
- **UL-ready version**
Built to UL standards for UL clearance



TECHNICAL DATA

SPECIFICATIONS

VI.BRAZE SERIES (BASE TRIM)	1200	2200	2300
PERFORMANCE & OUTPUT			
Charge weight (max.)	1,400 kg	1,400 kg	1,400 kg
Workpiece dimensions (W x H x D)	1,000 x 1,000 x 1,200 mm	1,200 x 1,200 x 1,500 mm	1,350 x 1,250 x 1,350 mm
Usable Volume	1,200 l	2,200 l	2,300 l
Process temperature (max.)	1,200 °C	1,200 °C	1,100 °C
Temperature uniformity	± 5 K		
Ultimate vacuum	≤ 5 · 10 ⁻⁷ mbar		
Leak rate (max.)	≤ 5 · 10 ⁻⁵ mbar · l/s		
Max. pressure fast-cooling	800 mbar		
Safety and Standards	CE		
DIMENSIONS			
Machine footprint (W x H x D)	6.7 x 4.0 x 6.3 m	6.5 x 3.1 x 6.0 m	3.8 x 4.5 x 10.3 m
Total space needed	~ 40 m²	~ 40 m²	~ 40 m²
Loading height	+ 870 mm	+ 1,120 mm	+ 1,000 mm
Weight	~ 10 t	~ 15 t	~ 15 t
ENVIRONMENT			
Water (Size Flowrate Pressure)	G 2½" 275 l/min 2–4 bar		
Process gas (Size Pressure)	½" 2 bar		
Pressurized air (Size Pressure)	½" 5–8 bar		
Rated power heater	237 kVA	360 kVA	360 kVA
Rated power total	280 kVA	430 kVA	430 kVA
COMMUNICATION			
Data connection	USB / VPN (Remote connection) / MES Interface OPC UA for machinery via PVA edge device		

TAILORED TO YOUR NEEDS

Standard sizes not quite right? Drawing on decades of custom furnace engineering, we adapt VI.Braze to your exact process, footprint and site requirements – talk to us.

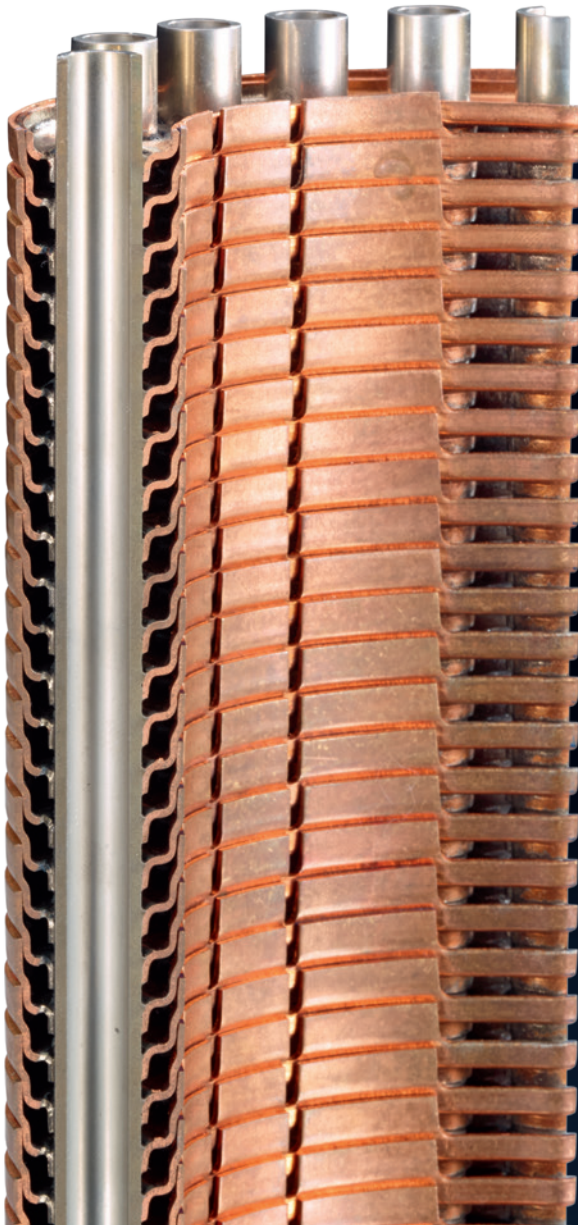
- Custom chamber dimensions
- Site-specific integration
- Individual process parameters
- Frame, pipes, and vessel in customer color

TECHNOLOGY & APPLICATIONS

HIGH VACUUM BRAZING WHERE RELIABILITY MATTERS.

High-vacuum brazing is a diffusion-driven process: two materials are joined by a braze alloy – typically copper- or silver-based, often with a small amount of a reactive element such as titanium or zirconium – that reacts on both surfaces and flows into the joint by capillary action. With no oxygen in the chamber, the alloy cannot oxidize, so the bond stays low in porosity, free of discoloration and precise – critical wherever leak-tightness and long-term reliability matter. It is also safe for people and the environment, as no flux or reactive gas escapes.

VI.Braze turns this science into practice: turbomolecular pumps pull the chamber below $5 \cdot 10^{-7}$ mbar to remove residual oxygen, molybdenum heaters reach 1,200 °C with ± 5 K uniformity for consistent alloy flow, and the double-walled, cold-wall vessel protects operators while shielding the process from contamination. This lets manufacturers braze hard metals, superalloys, titanium and ceramics with equal repeatability, batch after batch.





PVA TePla AG | Industrial Vacuum Systems
Im Westpark 10-12 | 35435 Wettenberg

+49 (0)641 686 90-0
ivsinfo@pvatepla.com
www.pvatepla.com

Disclaimer

The information provided is subject to technical progress and may change without prior notice. No liability is assumed for negligent errors, inaccuracies, or printing mistakes.
All information is non-binding.

Version 09/2026 | © 2026 PVA TePla AG. All rights reserved.