

AluVaC®

EN

Lightweight UHV Chambers and Components with CF knife-edge

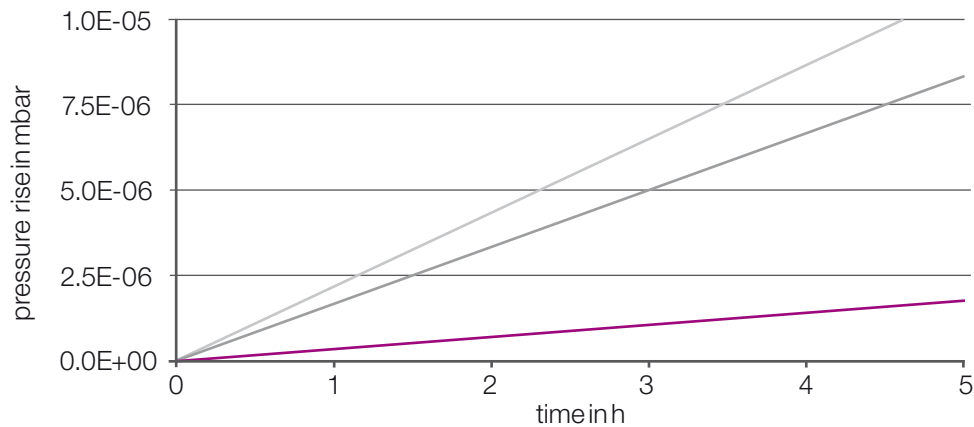


- Energy-Efficient
UHV/XHV Performance
- Non-Magnetisable
Vacuum Components
- Reduced Mass due to
Lightweight Material

Technical Data

- Long-term durable CF-knife edge according ISO-TS 3669-2*
- Specified vacuum performance according to VACOM Purity Classes

UHV/XHV-Performance of AluVaC® compared to stainless steel



Pressure rise in identically constructed vacuum vessels of:

- Stainless steel 316L (after 24 h bakeout at 120 °C)
- Stainless steel 316L (after 24 h bakeout at 200 °C)
- Aluminum 6082 (after 24 h bakeout at 120 °C)

Typical outgassing rates determined from this:

- Stainless steel 316L (24 h, 200 °C) $q \leq 1E-12$ mbar x l/s/cm²
- Aluminum 6082 (24 h, 120 °C) $q \leq 1E-13$ mbar x l/s/cm²

Material Properties	
Material	Aluminum alloys 6xxx
Material density	2.7 g/cm ³ (Vgl. stainless steel ~ 8.0 g/cm ³)
Rel. magn. permeability	< 1.00002
Thermal conductivity	170-220 W/(m x K)
Yield strength	240-260 MPa
Maximum temperature	160 °C (max. 30 minutes)

Product Specification	
He leak rate	< 1.0 x 10 ⁻¹⁰ mbar x l/s
Recommended heating temperature	120 °C
Max. operating temperature	120 °C
Required sealing material	Copper OFHC, annealed (e.g.: CUA40)
Max. part dimensions	1200x700x600 mm

Products

Lightweight Chambers with CF-connections	CF-Komponenten
<ul style="list-style-type: none"> ■ Rectangular Chambers up to 1200x700x600 mm ■ Cylindrical Chamber up to DN400 ■ Customized Chambers 	<ul style="list-style-type: none"> ■ Flanges ■ Tubulated Flanges ■ Straight Connectors ■ Customized Flanges

NOTE: All AluVaC®-components are also usable in combination with CF-components made of stainless steel!

* verified by long-term testing with 100 tightening cycles (with annealed OFHC copper gaskets) and after bakeout for 48 h at 120 °C. Please see our additional product information.