



CERAMIC-METAL COMPOSITE COMPONENTS FOR THE VACUUM TECHNOLOGY

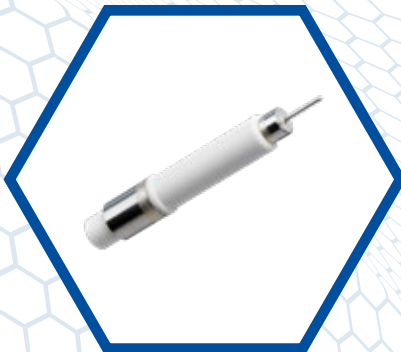
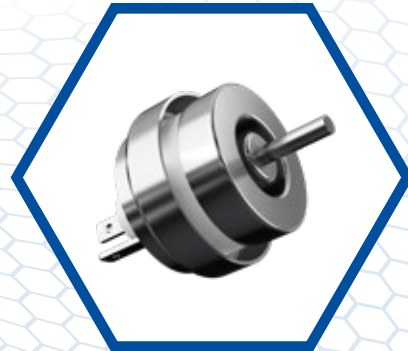
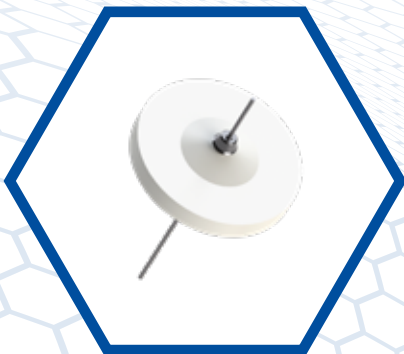
Our power and signal feedthroughs are available as single or multiple versions with different flange systems, e.g. ISO-KF or CF. Conductor material, conductor length and conductor cross-section can be individually adjusted.

Alumina Systems GmbH offers a standard program for vacuum applications.



VACUUM FEEDTHROUGHS

Do you need vacuum-tight connections and lines, paired with electrical insulation of the ceramic and high electrical dielectric strength? Alumina Systems GmbH offers you a wide standard range of ceramic vacuum feedthroughs for your areas of application: control, measurement, regulation and coupling of energy. Alumina Systems GmbH draws on many years of experience and a high level of technical know-how in this product area. We are a reliable partner for your special applications and requirements. We guarantee our customers high quality, consistency and satisfaction.



VACUUM ISOLATORS

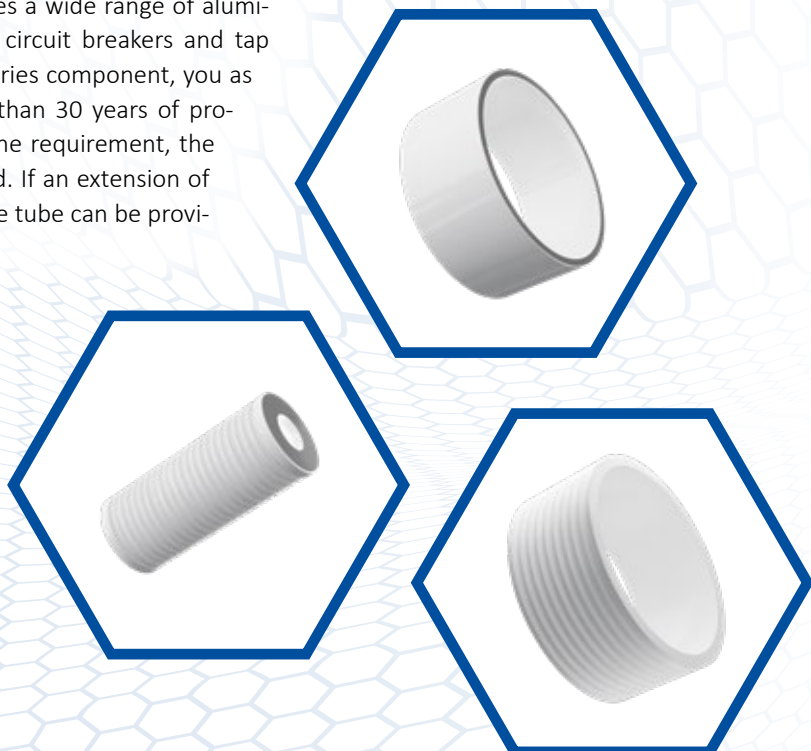
Vacuum isolators are used in vacuum technology when electrical insulation is required in conjunction with vacuum tightness. The aluminum oxide ceramic has the main task of electronic insulation. Alumina Systems GmbH manufactures such insulating tubes made of aluminum oxide for high-voltage applications, also with a special inner coating to prevent accumulation of charges. Again, our customers benefit from our many years of experience in the design and manufacture of such composite components.

In addition to the standard range, you will also find customer-specific solutions in the field of vacuum isolators at Alumina Systems GmbH. Here we make an active contribution to the quality and performance of our customers' products.



VACUUM INTERRUPTERS

Alumina Systems GmbH manufactures a wide range of aluminum oxide vacuum interrupters for circuit breakers and tap changers. From the sample to the series component, you as a customer benefit from our more than 30 years of production experience. Depending on the requirement, the vacuum interrupter can be optimized. If an extension of the creepage distance is required, the tube can be provided with ribs.



THE ALUMINA SYSTEMS PRODUCT FAMILY FOR VACUUM APPLICATIONS:

For vacuum technology, we produce individual metallized ceramics and metal-ceramic components in soldered composites for you.

From 1 piece to a series, we manufacture for you:

- Metallized ceramic tubes from Ø 1 mm to 300 mm
- Ceramic vacuum insulators: Alumina Systems GmbH manufactures such insulating tubes from aluminum oxide for high-voltage vacuum applications up to and above 150kV, versions: weldable, with KF or CF flange, or with individual flanges, flange size up to CF DN160 as standard
- Ceramic power and signal feedthroughs, single and multiple feedthroughs, weldable, with KF or CF flange, or individual flanges, flange size up to CF DN160 as standard, we guarantee surface insulation resistance here
- $> 10^9 \Omega$, tested to 10 kV DC
- Individual ceramic-metal composite assemblies according to your design

Ceramics:

Densely sintered ceramics made of Al_2O_3 96% and Al_2O_3 99.7%, our ceramic materials meet the requirements for dielectric strength according to DIN-EN 60672

- Metallization adhesion: Adhesive strength of the metallization $> 200 \text{ N/mm}^2$ (average value), tested according to the DVS test in accordance with data sheet 3101-1

Coatings:

- We can metalize, glaze or coat ceramics with chromium oxide
- Electroplating: We can chemically or galvanically nickel-plate metal parts or metallized ceramics. Another coating we provide is chemical gold: ENIG (Electroless Nickel Immersion Gold). Function: anti-corrosion and ultrasonic bondable
- Metals for the brazing compound: OF-Cu, Ni42 1.3917, Kovar 1.3981, Ni, Ti, etc.

Vacuum Tightness:

Soldered components are 100% tested for vacuum tightness by means of a helium leak test. Vacuum tightness up to 10^{-9} mbarL/ss

Standard Program:

In our web shop www.alumina.systems/shop you will find our standard components for vacuum technology.

FEM:

We can check and optimize the design of your assembly using the finite element method (FEM). A voltage-optimized design can be selected before the first prototype or tool is built.

OUR EXPERTS – ALWAYS THERE FOR YOU!



Dr.-Ing. Holger Wampers
Managing Director
ALUMINA REDWITZ HOLDING
GMBH
hwampers@alumina.systems



Dipl.-Ing. Norbert Müller
Sales & Marketing
ALUMINA SYSTEMS GmbH
nmueller@alumina.systems



ALUMINA SYSTEMS GmbH

Bahnhofstr. 43 | D-96257 Redwitz

Phone: +49 9574 65432 250 | email: info@alumina.systems

www.alumina.systems

