

ΕN





INNOVATIVE BY TRADITION - WORLDWIDE!

For almost 80 years, we have been developing and manufacturing high-quality **glass-to-metal seals** for a wide variety of industries and applications.

With passion, commitment and a high degree of innovation, we work on solutions for our customers, which made us one of the world's leading manufacturers of hermetic packages.

In addition to the sealing technology, our core competencies include the production of stamped parts and glass preforms, surface finishing and the manufacture of pins, turned and milled parts.

Customer satisfaction is our ultimate goal.

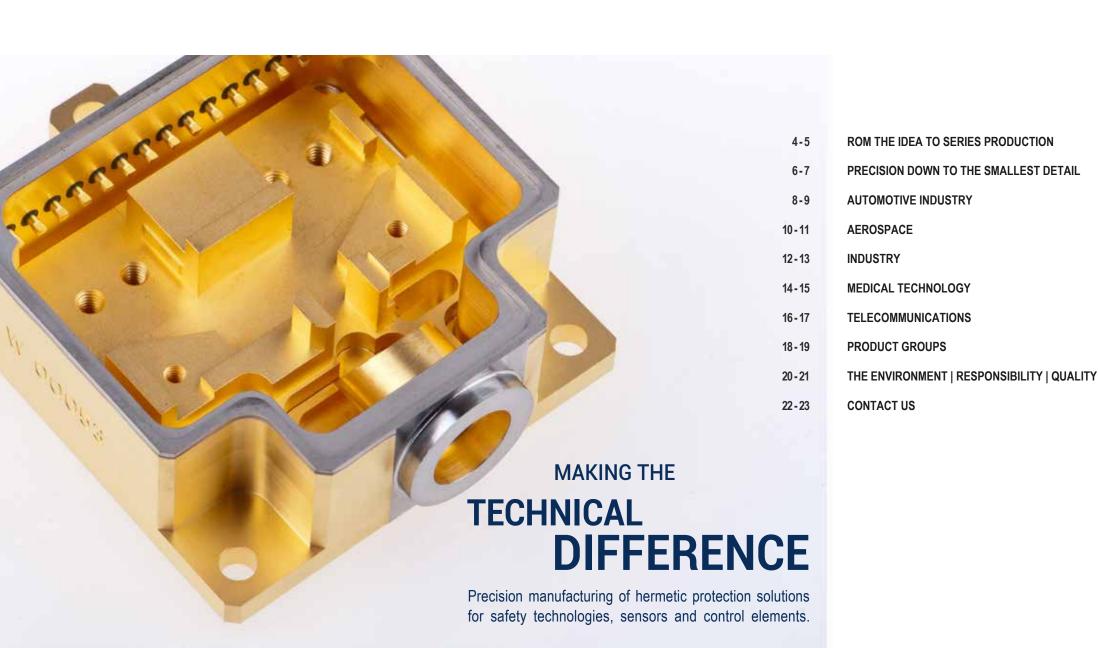
Our corporate culture is based on the zero-error strategy, which requires continuous optimization through innovative process development.

Electrovac - THE ART OF HERMETIC PACKAGES. Where tradition meets progress.

Dieter Thumfart Vorstand

Die Art Mum Part









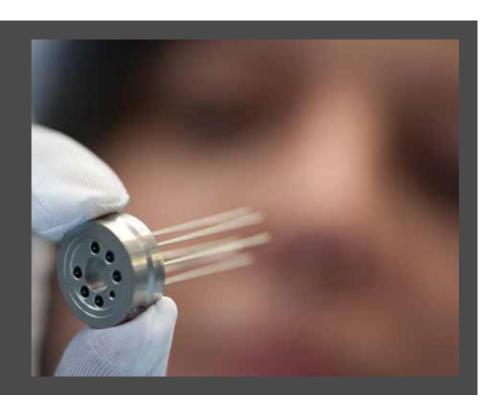


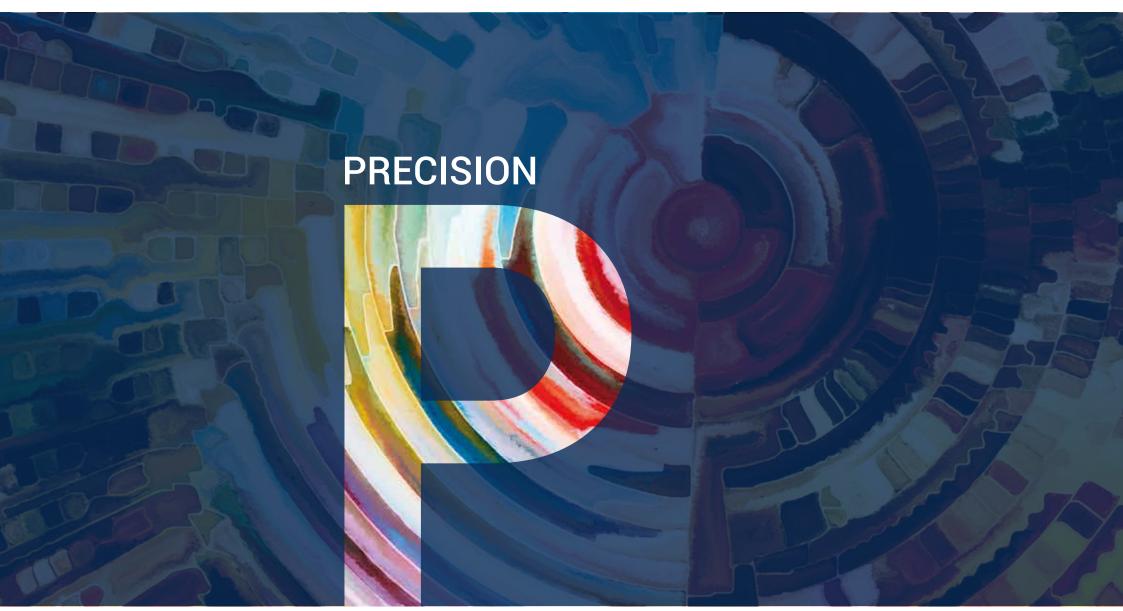
FROM THE IDEA TO SERIES PRODUCTION

It all starts with a systematic analysis of the customer's requirements.

The earlier our customers involve us in new projects, the shorter the development phase will be. That enables us to immediately apply our expertise and our experience to the project. Having our own prototype, tool and die-making capability means we can get the developed products ready for series production extraordinarily quickly.

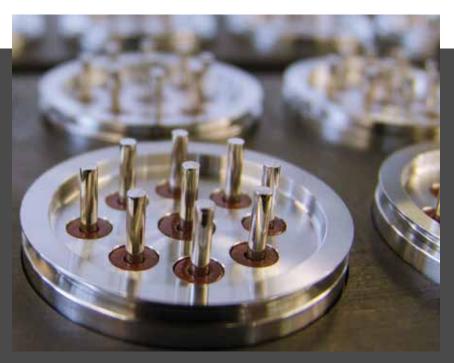
At our production sites in Germany, Austria and Thailand our engineers develop the productspecific manufacturing lines to meet the highest level of quality.







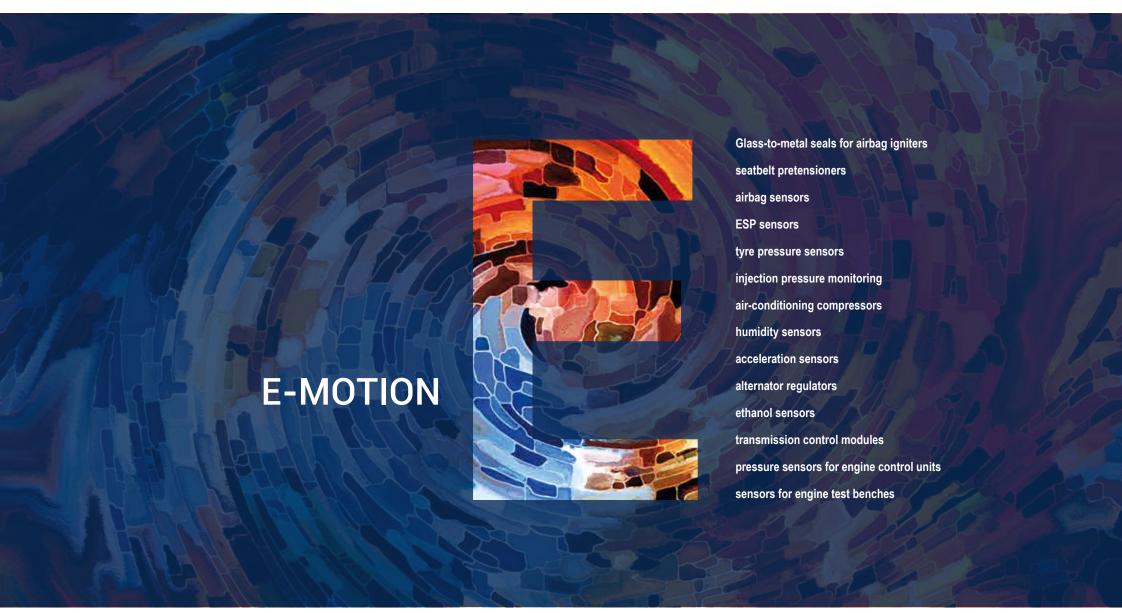




PRECISION DOWN TO THE SMALLEST DETAIL

Our quality products bear a heavy responsibility in the most diverse industries and fields of application. Human health and physical safety often depend on the reliability of our products.

To do justice to this responsibility, we work meticulously and uncompromisingly on a zero-error strategy that is inherent in our corporate culture. Along with the glass seal technology, our core competencies encompasses stamped part, pin and glass pre-form production as well as plating technology.





AUTOMOTIVE INDUSTRY

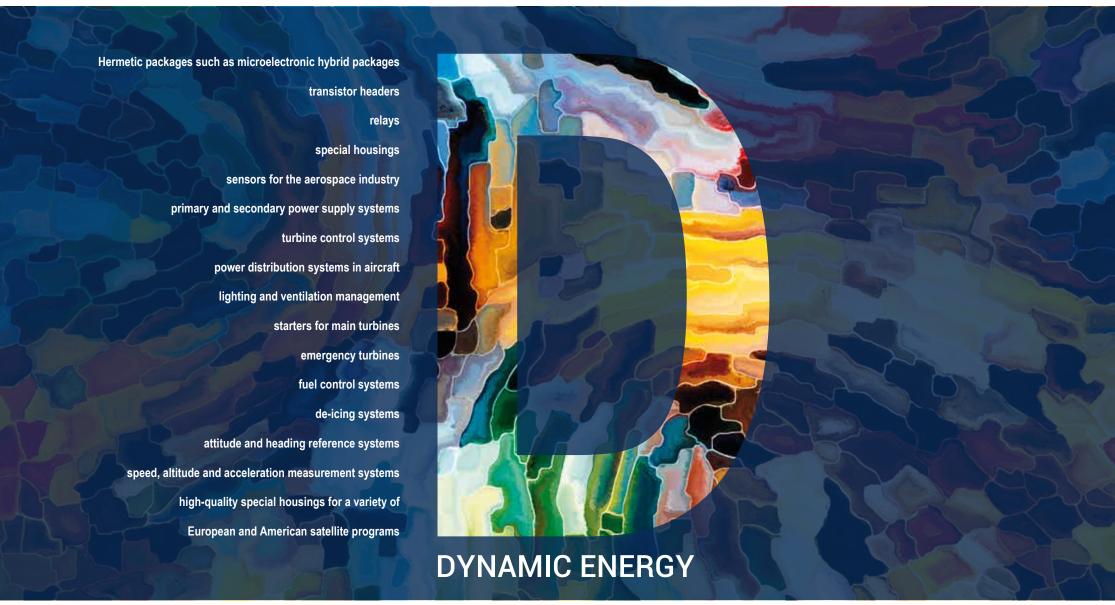




Along with our customers we develop customised hermetic packages that serve as the basis for encapsulating highly sensitive and longlasting electronic components. Our glass-to-metal seals help to protect life and limb and make driving much more fun.

Best quality – produced in Germany, Austria and Thailand.





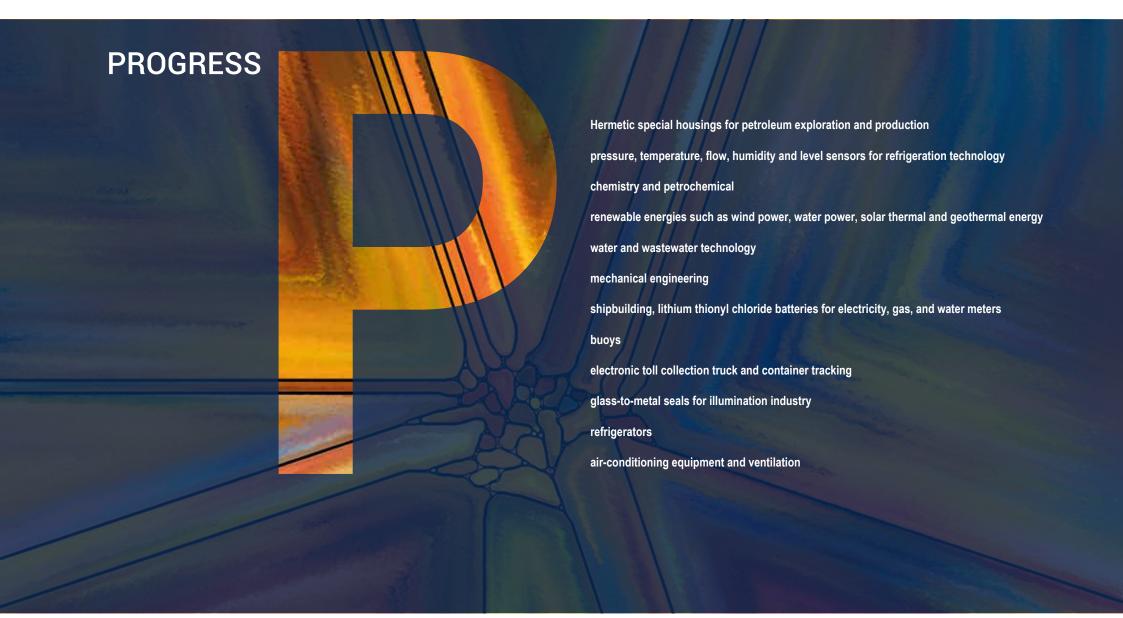


AEROSPACE





They provide long-lasting protection for security related components.





INDUSTRY



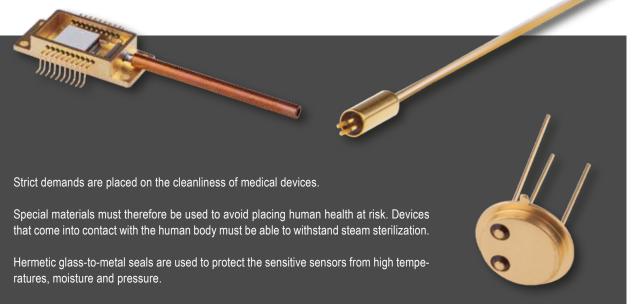


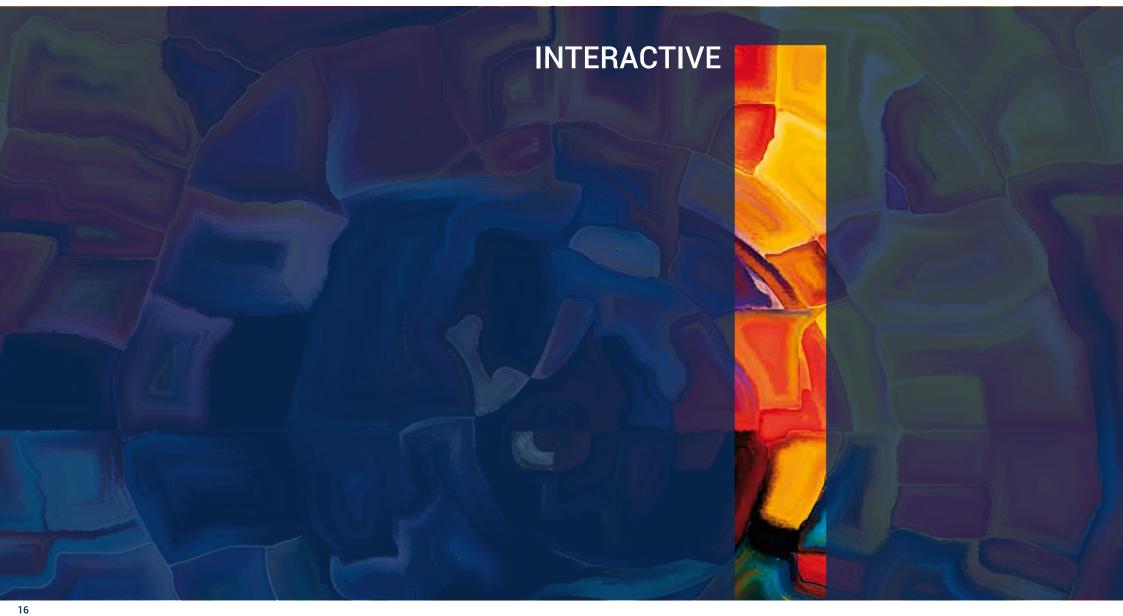




MEDICAL TECHNOLOGY

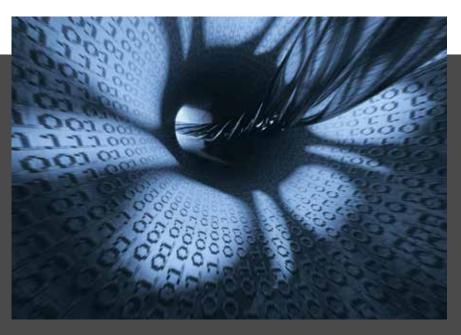








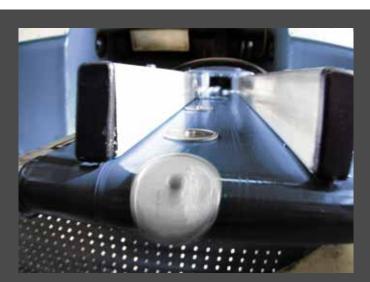
TELECOMMUNICATIONS



In opto-electronics, transistor headers are used for many different applications in transmitters and receivers.

Electrovac hybrid packages, for example, are used in the encapsulation of fully electronic switches.

In addition, customers also trust in the expertise and the product quality of Electrovac for data communicat ons and microwave technology.



TRANSISTOR HEADERS

Depending on the glass seal technology, two different types of metal are used.

- as a compression glass-to-metal seal: cold-rolled steel with NiFe or kovar pins
- as a matched glass-to-metal seal: kovar or alloy 42 with kovar pins

BATTERY COVERS



To be able to counteract the aggressive materials in this area of application, Electrovac has developed special types of high-quality glass. They guarantee an extremely low discharge and are used for temperatures ranging from -65°C up to +150°C. These quality products have a lifetime up to 25 years.

AIRBAG IGNITERS SEATBELT PRETENSIONERS



Specifications of the hermetic packages:

- hermetically sealed 1E-8 mbar l/s He
- glass ejection force up to 5000 N
- tensile force of the conductors up to 250 N
- temperature resistance of -65°C up to +230°C

GENERAL APPLICATIONS



Along with the products already described, Electrovac develops and manufactures a multitude of additional glass-to-metal seal varieties, such as hermetically sealed sight glasses, 50 Ohm feedthroughs for high frequency applications, additional single and multi-pin feedthroughs, compressor feedthroughs and hermetic relay housings.



SPECIAL HOUSINGS HYBRID PACKAGES



These glass-to-metal seals, developed to meet specific customer requirements, are used in the aviation industry, satellites, opto-electronics, microwave technology, laser technology, in power electronics, telecommunications and in medical technology for long-lasting protection of sensitive electronic switches without any loss of performance.

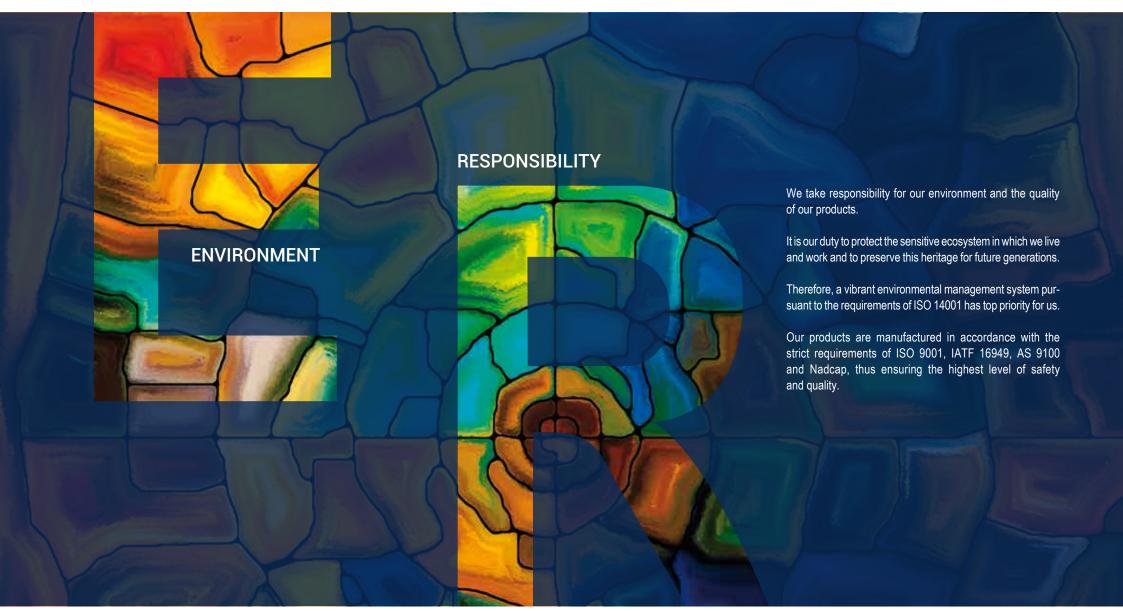
SENSOR PACKAGES



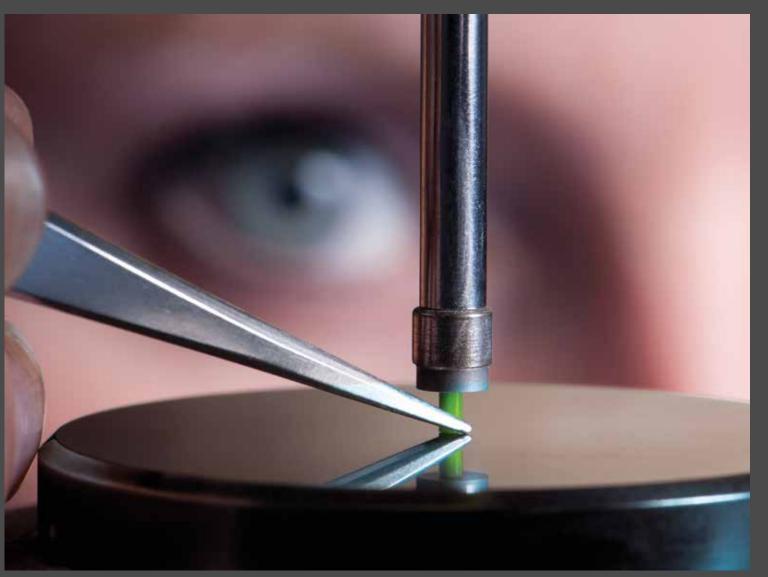
Our products provide long-lasting protection for highprecision sensors against aggressive substances, high pressure and major temperature fluctuations.

The materials used, such as kovar, titanium or stainless steels, are hermetically sealed to our special glasses.









QUALITY

As a global leader in quality, customer satisfaction and product quality are our highest priority! Established quality assurance measures form the basis of the high quality of our products. Continuous work on CIP and Six-Sigma processes underscores our commitment to permanent improvement.

We take responsibility for our products and often for human life and limb. For this reason, we do everything it takes to contribute to the further development and consistent quality of our products and services.

Our certifications in this field are an expression of this quality offensive - our products are the proof.





SALES & REPRESENTATIVE

GERMANY | AUSTRIA | SWITZERLAND | LIECHTENSTEIN | THE NETHERLANDS | EASTERN EUROPE UK | IRELAND | SCANDINAVIA | BALTICS

Electrovac Hacht & Huber GmbH

Anglstraße 4 94121 Salzweg, Germany

Telephone +

nec@electrovac.com

Electrovac Metall-Glaseinschmelzungs GmbH

Aufeldgasse 37-39

3400 Klosterneuburg, Austria

Ferdinand Pöppel

Telephone +49 851 491-310 poe@electrovac.com

Christoph Hadyk

Telephone +49 851 491-303

Andreas Spitzenberger

Telephone +49 851 491-302 spa@electrovac.com

FRANCE | BELGIUM SPAIN | PORTUGAL TURKEY

José Belda

Electrovac France SAS
3. rue de l'Arrivée. Tour CIT

75015 PARIS France

Telephone +33 1 42842547 bel@electrovac.com

ITALY

Emanuele Sala

Micropac Srl Via Gagarin

20090 Fizzonasco di Pieve Emanuele

Italy

Telephone +39 02 90781352 emanuelesala@micropac.it

ISRAEL

Gil Dor

Gadot Sales & Distribution Ltd.

Haogen Building

5 Hamelacha St. (6th floor) Poleg Industrial Area, P.O.B. 8751

Netanya 4250540, Israel

Telephone +972 9 8929644 Mobile +972 54 7332920 gild@gadot.com USA | CANADA | MEXICO

Brian Kopp

Electrovac North America

507 West St. Long Branch New Jersey 07740

USA

Telephone +1 732 222-3690 kop@electrovac.com

JAPAN

Herb Yano

Electrovac Japan K.K.

TCS Bldg 3F

1-14-33 Esaka-cho, Suita-shi

Osaka, 564-0063

Japan

Telephone +81 501 5527605 electrovac-japan@electrovac.jp

CHINA | HONG KONG SINGAPORE | MALAYSIA THAILAND

Christine Zheng Electrovac Asia

Telephone CN +86 186 88790173 zhengchristine@hotmail.com



















A glass-to-metal seal (GTMS)

is a vacuum-sealed connection (typically < 1E-8 mbar l/s He) between metal and glass. This connection is needed to feed the electrical conductors (pins) hermetically sealed and screened from the surrounding ambient environment into the package.

Hermetic packages

are always used when the electronics, the ignition powder or other components must be permanently isolated from the surrounding ambient environment without a loss of performance. The harsher the surrounding environment, the easier it is to see the advantages of glass-to-metal seals over plastic connections.

electrovac AG

Electrovac Hacht und Huber GmbH Anglstrasse 4 94121 Salzweg, Germany Telephone +49 851 491-0

Electrovac Metall- Glaseinschmelzungs GmbH Aufeldgasse 37-39 3400 Klosterneuburg, Austria Telephone +43 2243 450-0

Electrovac (Thailand) Co., Ltd.
Amata City Industrial Estate
7/469 Moo 6 Mabyangporn
Pluakdaeng, Rayong 21140, Thailand
Telephone +66 38 018 298

info@electrovac.com electrovac.com

Beutlhauser GmbH & Co. KG Am Kinsingwald 3 94121 Salzweg, Germany Telephone +49 851 966 53-0

> info@beutlhauser.com beutlhauser.com