

**PRESS RELEASE**

* **Wickert: A boom in the demand for special presses for vacuum insulation panels – highly effective insulation on the smallest of spaces**
* **For transporting pharmaceuticals and vaccines, refrigerators and freezers, and for building insulation**

*Landau, 6 April 2022*. The mechanical engineering company Wickert is currently experiencing a boom in the demand for special powder presses used in the production of highly effective vacuum insulation panels (VIP) made of compressed fumed silica.

It has been spurred by the increased demand in efficient and space-saving insulation materials for shipping boxes used to transport COVID-19 vaccines. They can be transported reliably refrigerated with the help of the compact insulating material. This is why they are extremely popular for air freight.

In the medium term, increased climate protection and the rise in energy-efficient modernization of old buildings will also contribute to the growing demand for equipment used in the production of panels.

**Mineral wool takes up five times as much space, EPS even ten times as much**

The insulating material, produced in the form of boards with a thermal conductivity of merely 0.004 watts per meter and kelvin, saves an extremely large amount of space. Mineral wool requires five times as much space for the same insulating effect, and expanded polystyrene foam (EPS) requires even ten times as much. Specifically, VIP is used in transport containers and trucks in refrigeration logistics, as well as in refrigerators and freezers, operational equipment and buildings.

**Wickert is one of only a few companies globally that manufactures special powder presses**

Wickert is one of the few manufacturers worldwide to offer and sell these custom presses to its customers in Europe and the USA. The family-run company developed the first units, invariably manufactured as customized machines, as early as in 2010.

They are usually installed as a coordinated press system and include matching peripherals. For the most part, Wickert supplies its customers turnkey, often fully automated, production lines, which include peripherals and the matching custom molds. Here, the company acts as a general contractor, integrating all of the required components and delivering the turnkey system.

All Wickert powder presses are modular in nature, configured precisely to customer’s requirements and their very specific applications. To produce vacuum insulation panels, they are dimensioned for a specific panel size, usually for standard sizes from 1,200 x 1,000 mm to 2,000 x 2,000 mm.

**Homogeneous high density and insulating effect** **over the entire panel**

The vacuum insulation panels are composed of a metalized plastic shell which predominantly contains a silica powder with a microporous structure derived from sand, for example fumed silicon oxide. In a first step, the addition of various additives reduces the thermal conductivity of the material. Gas molecules are then extracted from the starting material under pressure and simultaneous evacuation. During this process, the loose powder is transformed into a pressed, dimensionally stable core.

What is important here is that the highly dispersed silica is distributed gently and homogeneously throughout the press. Any dust and dirt particles are extracted as they are formed. Accurate positioning and uniform pressure build-up at the press plunger ensure that the material is pressed precisely with a homogeneous density across the entire panel. Consequently, Wickert presses are able to produce vacuum insulation panels of high quality and with an insulating effect over the entire surface. Overall, an automated production cycle with a Wickert special powder press takes around 2 to 6 minutes, depending on the panel thickness.

Once pressed, a cover of high-density metalized plastic composite film ensures an internal vacuum is maintained and that no gases or water vapors are able to penetrate.

**About Wickert Maschinenbau GmbH**

Wickert Maschinenbau GmbH is a medium-sized, family-owned company based in Landau in der Pfalz. The company is active in the development and manufacture of hydraulic presses and fully automated press systems. All machines and systems have a modular structure and feature pressing forces of between 20 and 100,000 kN, with a customer-specific layout in each case. The provided systems are used to process elastomers, composites, plastics and powder materials. They are used not only for the production of pharmaceutical sealing plugs, but also to manufacture safety parts in automotive brake systems and bi-polar plates for fuel cells. Other applications for Wickert presses include e-mobility, laboratories, and research facilities.

Hans-Joachim Wickert and Stefan Herzinger are the partners and managing directors of the family business that was founded in 1901 and exclusively manufactures in Landau in der Pfalz, from where it supplies its customers in Europe, the Americas and Asia. In 2021,190 employees generated revenue of around € 45 million.

**Pictures:**

Ein Bild, das Text enthält.

Automatisch generierte Beschreibung

Picture 1:

Mineral wool and vacuum insulation panels in comparison: The VIP requires merely a fifth of the thickness of traditional insulation material composed of mineral wool for the same insulating effect (picture: Wickert Maschinenbau GmbH).

Ein Bild, das Text, Wand, drinnen, Behälter enthält.

Automatisch generierte Beschreibung

Picture 2:

Vacuum insulation panels with a metalized protective sleeve. It conserves the vacuum, preventing water vapors from penetrating through, which would adversely affect the thermal insulating effect (license-free picture: Wikimedia Commons).

Ein Bild, das Spielzeug enthält.

Automatisch generierte Beschreibung

Picture 3:

Vacuum insulation panels made of compressed fumed silica are produced on special Wickert Maschinenbau presses (picture: Wickert Maschinenbau GmbH).

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