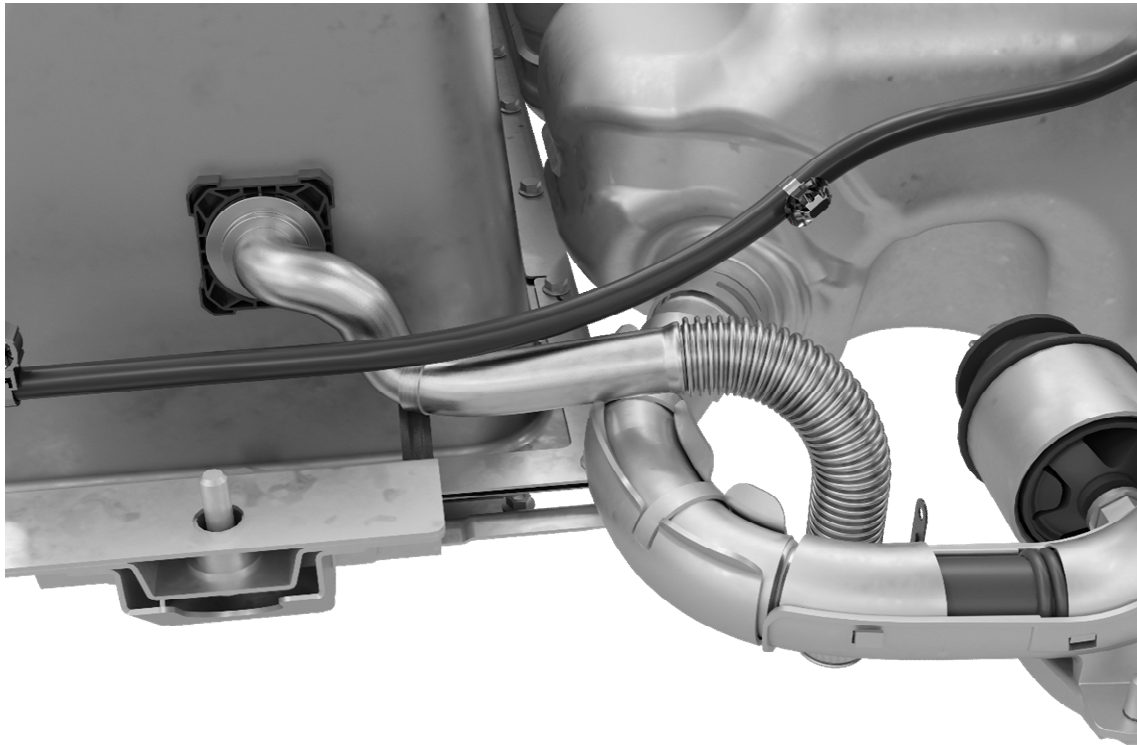


Lifesavers in E-Mobility: Witzenmann's venting pipes

A development partner that creates innovations capable of saving lives: With its venting pipes, Witzenmann enhances safety in hybrid and electric vehicles – particularly in the event of thermal incidents in high-voltage batteries, such as ‘thermal propagation’. This system safely directs hazardous gases away, giving passengers valuable time to escape in case of an emergency. Having delivered over seven million series-produced parts, Witzenmann is setting new global standards in passenger safety.



More than seven million series-produced parts are already in use in modern hybrid and electric vehicles. (Photo source: Witzenmann)

The increasing electrification of the automotive sector and the use of traction batteries with Li-Ion technology not only drive innovation but also present new safety challenges. One of these is the secure management of thermal incidents in high-voltage batteries, particularly thermal propagation. In such cases, a chain reaction triggered by a thermally penetrated battery cell can lead to uncontrolled overheating and the release of harmful gases, posing a serious risk to vehicle occupants. This is where Witzenmann's venting pipe system comes into play: Developed in collaboration with major OEMs, this solution enables the safe redirection of gases from the passenger compartment to non-critical areas while preventing flame formation. As a result, passengers gain crucial minutes to exit the vehicle safely. The technology withstands temperatures of up to 1,000 degrees Celsius, handles extreme gas flow volumes and remains fully operational even in crash situations.

"With over seven million series-produced parts already in use, our venting pipe system is deployed in modern hybrid and electric vehicles worldwide, making a vital contribution to passenger safety," says Marcel Horgos, Key Account Manager at Witzenmann.

Tailor-made solutions for maximum safety standards

As a technology leader in flexible metallic piping systems, Witzenmann brings decades of experience to the development of this safety-critical component. The venting pipe is custom-designed to meet specific vehicle requirements and integrates seamlessly into limited installation spaces. Depending on the application, it consists of either a flexible annularly corrugated hose or a rigid pipe with a gas-tight connection to the battery housing. The system offers tailored connection geometries, including tool-free couplings, clamps, V-beads or flange connections for various battery interfaces. Even complex degassing lines, designed to route gases from multiple rupture discs in battery modules, can be implemented.

From prototype to series production – a strong partnership

From concept development to series production, Witzenmann supports its customers as a reliable development partner with exceptional flexibility and problem-solving expertise. The company's capabilities are particularly evident in prototype construction, where different design iterations can be quickly implemented and rigorously tested – including endurance testing under extreme temperatures. With its unique expertise, strong in-house production capabilities and spirit of innovation, Witzenmann – pioneer of the metal hose – continues to lead the way, delivering solutions that make a difference in everyday life and emergency situations alike.

The Witzenmann Group

The Witzenmann Group is the world's leading expert in the safe and efficient transmission of media and energy for mobility and industry. Its headquarters are in Pforzheim. With a total of 22 companies in 16 countries worldwide, the family-owned company employs around 4,500 people.

Innovation, technology and digital pioneering work characterise Witzenmann: The company is the development partner with the world's broadest product range of metal hoses, expansion joints, metal bellows, pipe supports, piping systems and vehicle parts and offers its customers from a wide range of industries intelligent product solutions and services.

Further information is available at:

Witzenmann: <https://www.witzenmann.de/de/>
Innovation: <https://www.witzenmann.co.uk/en/innovation/>
New Mobility: <https://www.witzenmann.co.uk/en/solutions/automotive-engineering/new-mobility/>



Witzenmann: <https://www.linkedin.com/company/witzenmann-gmbh/>
Philip Paschen: <https://www.linkedin.com/in/philip-alexander-paschen-b31264/>



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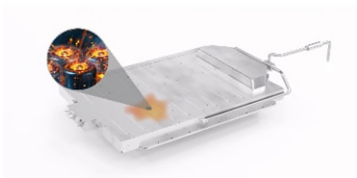
Witzenmann: <https://www.youtube.com/user/witzenmann1>

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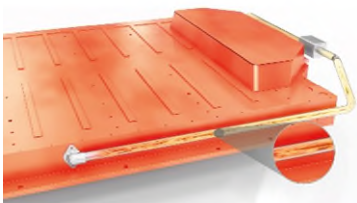
Witzenmann GmbH
Jochen Geiger
Oestliche Karl-Friedrich-Str. 134
75175 Pforzheim
Germany
Phone: +49 (0) 72 31-581-745
Email: jochen.geiger@witzenmann.com

c/o follow red GmbH
Natalie Krauter
Waldburgstraße 17/19
70563 Stuttgart
Germany
Phone: +49 (0) 711 90-140-743
Email: natalie.krauter@followred.com

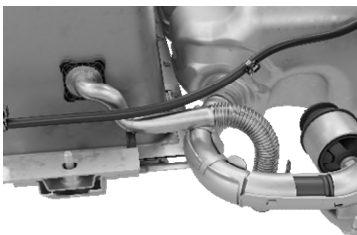
Images and captions



Caption:
Example of a thermal runaway – the overheating of a single battery cell.
Photo source: Witzenmann GmbH



Caption:
Safety under extreme conditions: During thermal propagation, temperatures can reach up to 1,000 degrees Celsius.
Photo source: Witzenmann GmbH



Caption:
Over seven million series-produced parts are already in use in modern hybrid and electric vehicles.
Photo source: Witzenmann GmbH



Caption:
The venting pipe with V-bead connection, flexible annularly corrugated hose, flange connection and stainless steel pipe.
Photo source: Witzenmann GmbH

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<https://frtransfer.followred.com/s/8jCfyHgDcxsBAEA>