

Fuel technology – Automotive



AUTOMOTIVE

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Entlüftungsleitungen mit integriertem Ausperlbehälter

Wellrohre mit integrierten Ausperlbehältern von FRÄNKISCHE Industrial Pipes werden eingesetzt, um das Überlaufen von Kraftstoffen in Tanksystemen zu verhindern. Das einheitliche System kann direkt am Tank montiert werden und durch die integrierten Durchmessersprünge aufsteigende Kraftstoffblasen auflösen, die beim Tanken entstehen können.

Die nach kundenspezifischen Bauräumen individuell verformbaren Expansionsbehälter können sowohl im Mono- als auch in Mehrschichtverfahren, optional mit Sperrsicht, hergestellt werden. Die Behälteranzahl am Rohr ist unbeschränkt möglich, sowie die Wandstärken individuell anpassbar.

Ventilation lines with integrated expansion chamber

Corrugated tubes with integrated expansion chambers by FRÄNKISCHE Industrial Pipes are used to prevent fuel overflow conditions in tank systems. The one-piece system can be installed directly onto the tank. Its integrated diameter changes dissolve rising fuel bubbles that can originate during refueling.

The expansion chambers, which can be tailored to customer-specific installation spaces, can be produced both in single- and multiple-layer procedure, optionally with a barrier layer. The number of containers at the tube is unlimited and the wall thicknesses can be customized.

Integrierte Ausperlbehälter / *Integrated expansion chamber*



zylindrisch / mit hoher Steifigkeit

cylindrical / with high stiffness



exzentrisch / elliptisch verformt mit hoher Flexibilität

eccentric / elliptically formed with high flexibility



Tankentlüfungssysteme

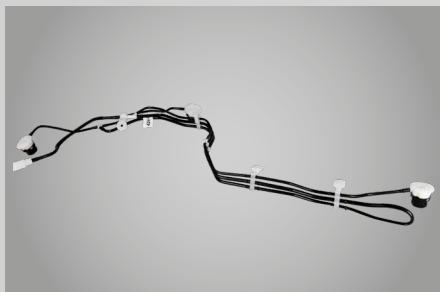
FRÄNKISCHE Industrial Pipes designed und entwickelt komplette Systeme, vom spezifischen Bauraum zur serienreifen Lösung. Das Tankentlüftungssortiment umfasst nahezu oligomerfreie Intank- und Auftankleitungen, von der unverformten Leitung bis hin zum komplexen System. Die oligomerarmen Hochleistungskunststoffe ermöglichen den weltweiten Einsatz für alle Kraftstoffvarianten. Die zukunftsorientiert entwickelten Mehrschichtsysteme sind auch für den stetig steigenden Einsatz an Biokraftstoffen geeignet.

Die permeationsdichten Auftanksysteme erfüllen alle Emmissionsstandards.

Tank ventilation systems

FRÄNKISCHE Industrial Pipes designs and develops complete systems from specific installation spaces to solutions ready for series production. The range of tank ventilation products includes nearly -oligomer-free in-tank and top tank lines from unformed lines to complex systems. The low-oligomer high-performance plastics allow for global applications in combination with all types of fuel. The future-oriented multiple-layer systems are also suited for the ever-increasing use of biofuels.

The impermeable top tank systems comply with all emission standards.



Intank-Entlüftungsbundle

In-tank ventilation bundle



Intank-Entlüftungssysteme mit Transferleitung

In-tank ventilation systems with transfer line

Auftank-Entlüftungsleitungen

Top-tank ventilation lines

AKF Entlüftungsleitungen

Carbon canister ventilation lines

Kraftstoffführende Leitungen

Die innovativen Fluidleitungen von FRÄNKISCHE Industrial Pipes erfüllen alle Emissionsstandards und werden kundenindividuell entwickelt und als fertig verbaubares System serienreif geliefert.

Die Vielfalt an Materialien und Mehrschichtsystemen bieten unterschiedlichste Leistungsanforderungen, wie Druckfestigkeit, hohe Abzugskräfte, Flexibilität und chemische Beständigkeit sowie elektrische Leitfähigkeit, für den Einsatz im nordamerikanischen Markt.

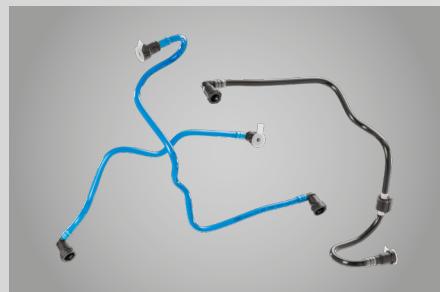
Fuel lines

The innovative fluid lines by FRÄNKISCHE Industrial Pipes comply with all emission standards. They are developed tailored to the customer's requirements and delivered as a system ready for installation and series production.

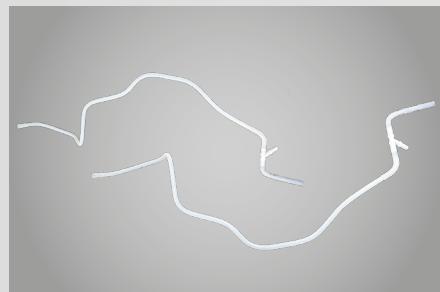
The variety of materials and multiple-layer systems offer various performance characteristics, e.g. compressive strength, high pull off forces, flexibility, chemical resistance and electrical conductivity, for application on the North American market.



Kraftstoff-Pumpenleitungen
Fuel pump line



Auftank-Kraftstoffleitungen
Top-tank fuel lines



Transferleitungen
Transfer lines



Standheizungsleitungen
Park heater lines



Kraftstofffördernde Intank-Leitungen
In-tank fuel-lines

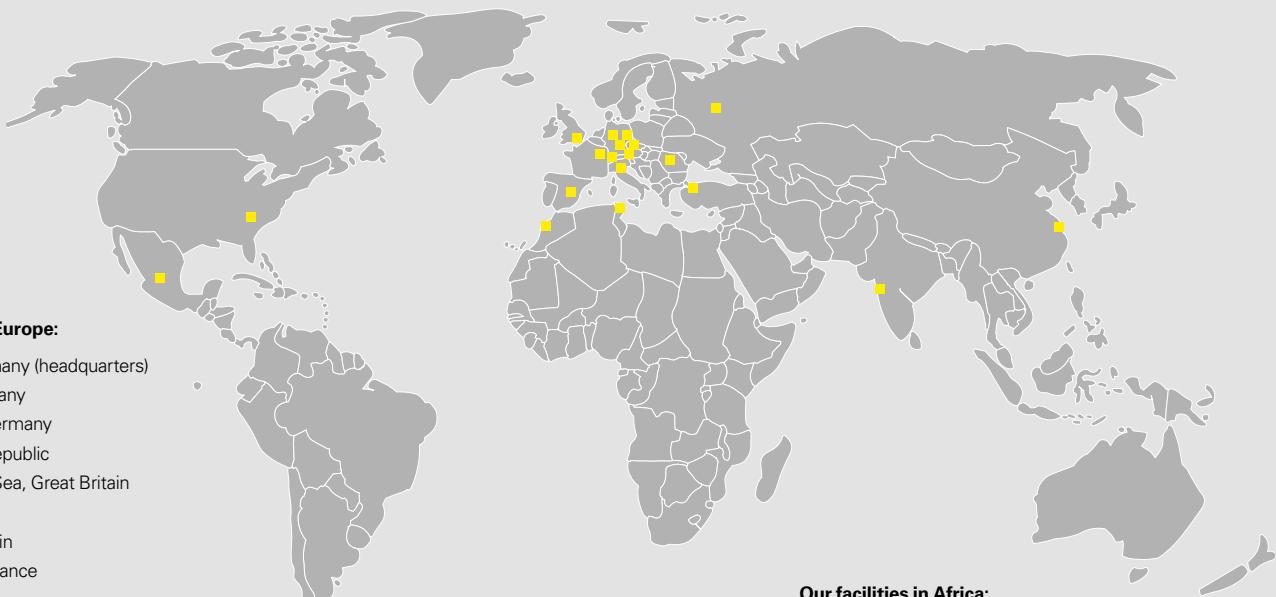


Unterbodenleitungen
Underbody line

Materialien / Materials

| Name Name | Materialien Materials | Leitfähig Conductive | OEM-Freigaben / OEM approvals |
|----------------|-------------------------------|-------------------------|-------------------------------|
| | PA610 (ENO P210TL) | nein / no | Alfa Lancia |
| | PA11 | nein / no | Audi Landrover |
| | PA11 cond. / PA11 | ja / yes | BMW Mazda |
| | PA12 | nein / no | Brilliance Mitsubishi |
| MLT3-PA6 | HDPE / AD / PA6 | nein / no | BYD Nissan |
| MLT3-PA612 | HDPE / AD / PA612 | nein / no | Chery Opel |
| MLT3-PA12 | HDPE / AD / PA12 | nein / no | Daimler, Mercedes Porsche |
| MLT3-ST | HDPE / AD / PP | nein / no | Daewoo PSA |
| MLT3-PEPE | HDPE / AD / HDPE | nein / no | Donfeng Renault |
| MLT2-B PA9T | PA9T / PA12 | nein / no | FAW Rover |
| MLT2-B ETFE | ETFE / PA12 | nein / no | Fiat, Chrysler Saab |
| MLT3-B | PA6 / EVOH /PA612 | nein / no | Ford SAIC |
| MLT3-BC – PA9T | PA9Tc / PA9T / PA12 | ja / yes | Geely Seat |
| MLT3-BC – ETFE | ETFEc / ETFE / PA12 | ja / yes | GM N.A. Skoda |
| MLT5-ST | HDPE / AD / EVOH / AD / PP | nein / no | Greatwall Subaru |
| MLT5-B – PA612 | HDPE / AD / EVOH / AD / PA612 | nein / no | Honda Suzuki |
| MLT5-B – PA12 | HDPE / AD / EVOH / AD / PA12 | nein / no | Hyundai Toyota |
| MLT5-Classic | PA12 / AD / EVOH / AD / PA12 | nein / no | Jaguar Volvo |
| | | | Kia VW |

Rooted in Königsberg – globally successful!



Our facilities in Europe:

Königsberg, Germany (headquarters)
Bückeburg, Germany
Schwarzheide, Germany
Okříšky, Czech Republic
St.-Leonards-on-Sea, Great Britain
Moscow, Russia
Yeles/Toledo, Spain
Torcy-le-Grand, France
Ebersbach/Fils, Germany
Hermisdorf, Germany
Mönchaltorf, Switzerland
Milan, Italy
Istanbul, Turkey
Cluj, Romania
Wels, Austria

Our facilities in Asia:

Anting/Shanghai, China
Pune, India

Our facilities in Africa:

Ben Arous, Tunisia
Casablanca, Morocco

Our facilities in North America and Mexico:

Anderson, USA
Guanajuato, Mexico

FRÄNKISCHE is an innovative, growth-oriented, medium-sized family-owned enterprise and industry leader in the design, manufacturing and marketing of technically superior corrugated pipe systems for drainage, electrical, building technology and industrial applications.

We currently employ about 3,500 people worldwide. Both our many years of experience and expertise in plastics pro-

cessing, our consulting services and the large array of products are highly valued by our customers.

FRÄNKISCHE is a third generation family owned business that was established in 1906 and is now run by Otto Kirchner. Today, we are globally represented with production facilities and sales offices. The proximity to our customers enables us to develop products and solutions

that are perfectly tailored to our customers' needs. Our action and business philosophy focus on our customers and their needs and requirements for our products.

FRÄNKISCHE – Your partner for sophisticated and technologically advanced solutions.