



# WITZENMANN- SPECK

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# THE GROUP

With 24 companies in 19 countries  
Witzenmann is the worldwide Number 1 in our industry.



## World leader

Witzenmann is a global group specialising in the design and manufacture of flexible metal elements. Guided by our vision of "managing flexibility", our company has become renowned as a reliable manufacturer and as the innovative development partner of choice within the industry. Today, Witzenmann offers the widest product range worldwide for the most diverse areas of application. This enables us to offer the correct solutions time and time again.

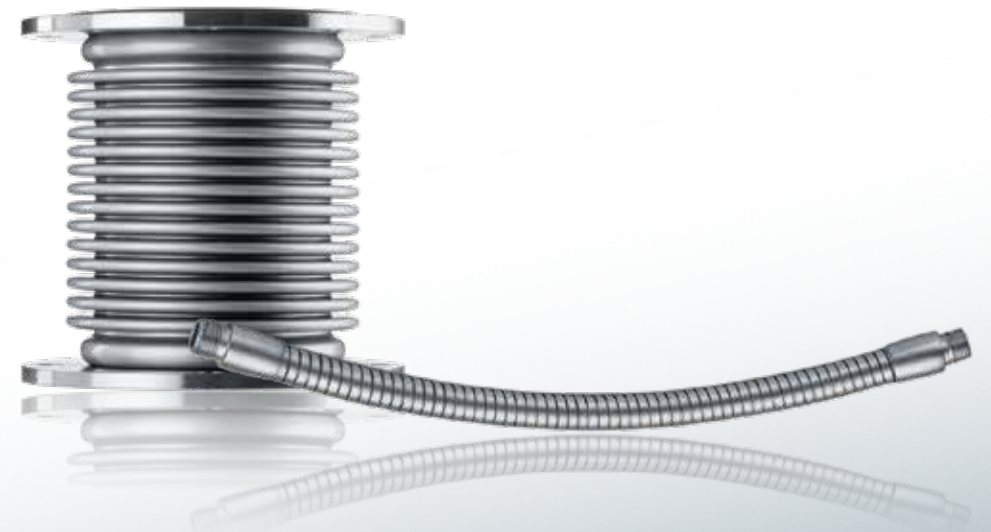
## Assuming responsibility

By signing the Declaration of Accession the Witzenmann Group is committed to The Ten Principles of the United Nations Global Compact. The initiative by former UN Secretary General Kofi Annan is derived from the "Universal Declaration of Human Rights", The International Labour Organization's "Declaration on Fundamental Principles and Rights at Work" (ILO) and The Rio Declaration on Environment and Development.



HYDRA

HYDRA



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# OUR FLEXIBLE NETWORK

The group's international technology network in Europe, Asia and America generates advantages in terms of operating efficiency and innovative strength.

## Always close to the customer

One of our corporate principles is to manufacture our products close to our markets. In practice, this entails establishing extensive local knowledge both in production and engineering. To ensure this, we apply comprehensive qualification measures at our Competence Centre in Pforzheim and provide the respective subsidiaries with the appropriate Witzenmann technology. The strong technology network within the group enables us to address global trends and develop the corresponding solutions. This has made us an innovative leader in our industry.

## Fast service, economical production

Closeness to our customers also means, of course, being able to offer fast service on site. In the case of inspections, repairs or plant renewals, this involves short delivery times of our products, and when planning new plants or designing pipelines, this means having fast, easy access to the expertise of our engineers. By the same token, our numerous affiliates worldwide have their own assembly department. This makes the entire process fast and economical.



# QUALITY BY WITZENMANN

This not only reflects the expertise of each individual employee – but also the quality of our processes.



Durability and reliability are a must for a company that strives for quality leadership. "HYDRA – Quality by Witzmann" is not just based on DIN ISO 9001, but also on a large number of national and international registrations and certifications such as EJMA (Expansion Joint Manufacturers Association), ASME (American Society of Mechanical Engineers) or U-Stamp (Boiler and Pressure Vessel Certification). Therefore, our customers now include all major manufacturers. This is reason enough for us to consistently enhance the qualitative development of our product solutions.

## Spin-off effects from other markets

Witzmann is involved in many highly specialised markets. These include, for instance, aerospace, nuclear power and even medical technology. These are all fields in which maximum functional reliability is required under demanding operating conditions. This is one of the factors which, thanks to our multi-faceted expertise, makes us a sought-after development partner around the world.

# CORE COMPETENCE

Know-how and experience are the basis for the technologically-advanced engineering of Witzenmann-Speck.



At the beginning of the 50s, the manufacturing of flexible metal hoses was started at the Albert Speck GmbH. In 2002, Albert Speck then became a fully owned subsidiary of the Witzenmann Group. Today, Witzenmann-Speck is concentrating its efforts on developing and producing stripwound hoses, as well as on assembling corrugated hoses, metal bellows and expansion joints. Apart from the continuous development of existing products, the "systemic" overall approach at Witzenmann-Speck is becoming increasingly important.

#### **System partner for original equipment manufacturers**

Thus, today together with the OEMs, not only are the latest, flexible components being designed, developed and implemented – the engineers from Witzenmann-Speck are also being increasingly included in the consultation and implementation of complete systems. The basis for this is the extensive range of products, technical expertise and the absolute determination to make the extraordinary a feasible reality. This was also the beginning of the flat rectangular channels for controlled domestic ventilation. Today, Witzenmann-Speck is a market leader with several systems in this field and a sought after design partner for the OEMs.

#### **Particular strength: Speed**

When implementing new ideas from prototypes to series production, the development engineers rely on experience, expertise and direct access to their own R+D resources. For this reason, after brainstorming together with the OEMs, functional prototypes are often on the table amazingly fast – as the basis for a subsequent series production. The rapid interpretation of ideas into technical solutions: one of the many strengths of Witzenmann-Speck. Witzenmann-Speck now also utilises this in the configuration, assembly and production of expansion joints for a broad variety of applications.

#### **Hose expertise for sanitary equipment and industry**

HYDRA shower hoses for bathroom and kitchen applications as well as innovative and flexible design elements represent an important feature in Witzenmann-Speck's portfolio. In the sector of stripwound hoses and corrugated hoses for industrial applications, Witzenmann-Speck is a manufacturer and sales partner with an extensive product range designed for an extremely wide range of operating conditions – pre-assembled and provided with all kinds of connections.

# HYDRA® PRODUCTS FOR INDUSTRY

Flexible metal hoses in various nominal diameters

## Corrugated hoses



### HYDRA Corrugated Hoses

Corrugated hoses are mechanically formed from seamless or longitudinally welded tubes and are available in a variety of wall thicknesses, material types and packaging from DN 4 to DN 300. These are used to convey pressurised fluids and fluids in a vacuum in an absolutely leak-tight manner. The hoses are used to compensate movements, thermal expansion and vibrations within piping systems.

#### Applications

- Pressurised or vacuum-sealed gas, water, hydraulic or refrigerant lines in technical building equipment
- As pressurised hoses in the chemical industry and vacuum technology or as a noise and vibration-damping equalising piece
- As a conveying hose in heat exchangers and stratified storage systems
- Oil, fuel and exhaust gas lines in the automotive industry

## Stripwound hoses



### HYDRA Stripwound hoses

Stripwound hoses from Witzenmann are wound from strips of material in various profiles depending on the respective application and specifications from DN 1 to DN 1000. The industry's broadest product programme ranges from the highly flexible metal hose with engaged profile through to the sturdy interlocked protective hose. The flexible metal elements are used as heat and ageing-resistant components in exhaust gas technology, for example, as protective conduits and conveying hoses.

#### Applications

- Medical technology
- Lasers for industrial applications
- Glass fibre
- Optoelectronics
- Technical endoscopy
- Extraction and conveying hoses for dust, chippings and pellets



# HYDRA® PRODUCTS FOR INDUSTRY

Expansion joints from DN 20 to DN 1200

## Axial Expansion Joint



### HYDRA Axial Expansion Joints

Powerful standard and special designs are cost-efficient solutions for simple compensation tasks. Adjusted for versatile use in all applications with clearly defined moderate fixed-point forces. Multi-ply metal bellows designs made of stainless steel are available within a short time in numerous different nominal diameters and with a selection of connection options.

#### Details

- Stainless steel bellows, single-ply and multi-ply
- Special designs: inner sleeves, special materials, deviating flange drill templates
- With and without connecting parts

## FLEXPERTE®



### FLEXPERTE® – the Design Software

Specially designed for designers, "FLEXPERTE" is a PC software application for dimensioning and presenting expansion joints, metal bellows, flexible metal hoses and pipe supports. The menu-based application aids in the calculation and design of these products.

For more details, please visit [www.flexperte.de](http://www.flexperte.de)

#### Details

- Design of standard expansion joints
- Preparation of technical Data Sheets
- Preparation of Enquiries



# HYDRA® PRODUCTS FOR TECHNICAL BUILDING EQUIPMENT

Flexible metal hoses for water applications

## Braided flexible metal hose

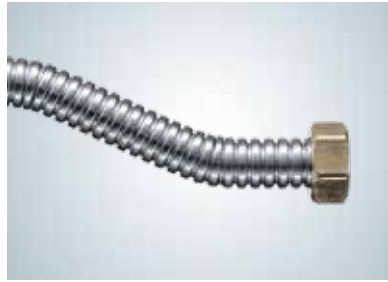


## Individually finished or off the shelf

In addition to the extensive range of standard designs which are available ex-stock, HYDRA stainless steel flexible metal hoses can be custom-assembled with various fittings in any length. The product range encompasses a broad spectrum from DN 4 to DN 150, and is approved for use up to a nominal pressure of 16 bar according to DIN 3384.

- Available with and without braiding
- Long service life
- Simple installation

## Hot water connection pipe



## Fast, simple, universal

Connection pipes in flexible and semi-flexible designs that enable fast and straightforward piping of heating, hot water and boiler equipment are a versatile alternative to copper piping. The standard series available ex-stock in two different designs covers all conventional applications.

## For pipework on

- Loading pumps
- Fired boilers
- Gas heaters/boilers
- Pressure expansion vessels

## Mounted sprinkler system



## Flexibility for operating efficiency

The specially assembled stainless steel hose permits straightforward, fast and exact positioning of the sprinkler head. This results in significant time and cost benefits as compared to conventional installation technology.

## Advantages

- Significantly reduces installation work compared to rigid systems
- Variable positioning is possible in all directions
- Suitable for the most diverse ceiling systems
- Easily bypass other parts and building components
- Does not require completely new installation of the sprinkler system during renovations or conversions



# HYDRA® PRODUCTS FOR TECHNICAL BUILDING EQUIPMENT

Flexible metal hoses and expansion joints for gas applications

## HYDRA gas hose according to DIN EN 14800



## Highly flexible gas hoses acc. to European standard

The hose meets the requirements of the harmonised European standard DIN EN 14800 and the highest standards of safety even under tough operating conditions. Three-layered design

- Highly flexible and pressure-tight HYDRA stainless steel corrugated hose ensures that gas is carried safely
- Stainless steel braiding for absorbing mechanical loads as well as permitted tensile loads
- Easily cleaned PVC covering to protect against contamination and aggressive household cleaning agents

## Gas installation system HYDRA GS



## The Innovation on the Gas Installation Market

The HYDRA GS gas installation system is a genuine innovation. What's new about it? The incredibly easy technology. HYDRA GS is available as a Click System for easy installation without hydraulic tools or as a Press System using hydraulic tools for fast and effective installation across a distance. Country-specific approvals ensure that HYDRA GS systems fulfil all requirements for a long and safe service.

## Advantages

- In just a few steps, the hose can be cut to the required length, equipped with the proper fittings and easily bent by hand to fit into recesses, corners or lead-throughs
- Cost and logistical advantages increase as the project scale increases.

## HYDRA expansion joints for gas applications



## Reliable protection for pipelines

HYDRA expansion joints for gas applications are approved according to DIN 30681 and guarantee stress-free and safe pipe installation. They absorb system vibrations and movements and thereby protect the piping system against damage.

## Characteristics

- For absorbing vibration in drying ovens, gas engines and gas control systems
- For use in gas supply or burner feed lines
- Reduction of power and torque transmission in the area of the connection fittings



# HYDRA® PRODUCTS FOR TECHNICAL BUILDING EQUIPMENT

Ducts for residential ventilation

## Flat ducts



## Distribution box for connecting a flexible hose



## Flat and round – the complete range

Modern buildings with a high standard of insulation and correspondingly high structural integrity can no longer function without controlled ventilation of the dwelling space. The ventilation systems ensure a specific exchange of air, regulate the moisture and prevent mould formation. In addition, they guarantee increased efficiency from the heating system because heat can be recovered from the waste air.

The flat ducts with a rectangular profile can be installed in the concrete of the floor, wall or ceiling, or installed behind the pre-wall structure in order to save space. This means the ventilation ducts are in a concealed installation, and do not require any extensive structural modifications. The extensive range of components allows an extremely wide range of room situations to be fitted out using both systems (round or flat, and combination of the two).

### Characteristics

- Smooth surfaces with very good hygienic properties
- Optimum flow
- Snap-on system
- Simple to connect
- Made of non-flammable materials
- No static discharge or evaporation
- According to DIN 1946-6, VDI 6022
- Tightness class D according to DIN EN 12237 and 1507



# HYDRA® PRODUCTS FOR TECHNICAL BUILDING EQUIPMENT

Sanitary equipment – stringent requirements for functionality and design

## Durable pull-out hose



## Reliability in the daily use

Pull-out hoses in household and professional kitchens are under heavy stress from tensile, pressure and crushing loads. The HYDRA high-performance hoses guarantee permanent fail-safe use. The specially developed safety profile combines high flexibility with maximum robustness. The patented joining technique combines the inside and outside hose as well as the connection fittings into a firm, inseparable connection and are easy to clean. Worldwide drinking water approvals go without saying for us.

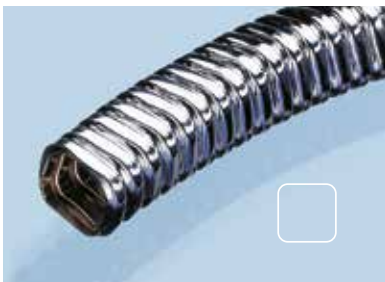
## Flexible outlets



## Optimally co-ordinated design

Our wide range of products allow us to coordinate our fittings to match modern, high-quality kitchens and bathroom interiors in terms of surface, appearance and colour. Together with leading fittings manufacturers, Witzemann-Speck develops flexible outlets in needs-oriented functionality and according to the highest demands for interior design.

## Design line



## For the highest demands

The individual style of the design line, designed specifically for the HYDRA high-performance hoses, give our high-quality kitchen shower hoses a unique appearance. Whether you are looking for a round or square design, these hoses create a discreet yet striking appearance in a modern kitchen and bathroom design.

## Inlet hoses



## The safety inlet hose

The HYDRA stainless steel safety inlet hose is approved by the DVGW for drinking water application and is therefore the appropriate connection between equipment and water fittings for food products.

Its special design – inside a pressure-tight annularly corrugated hose - outside a safety sleeve hose – with standardised connection fittings – makes it extremely versatile. Bursting or leakage is not possible. The corrugation profile of the inside hose enables turbulences of the water, which prevents the build-up of calcium deposits or bacteria – the hose cleans itself.