

VOSS

Safety on all tracks

Connecting systems for rail technology



www.voss-fluid.net

THAT'S WHO WE ARE.

CONNECTION. RELIANCE. THINKING AHEAD.

VOSS Fluid is your reliable partner for connection technology in fluid systems. From tailor-made individual components right up to ready-to-install hydraulic lines: Our products meet the highest requirements: Inspired by our passion for details, we're constantly improving upon our products. We are continuously developing our extensive expertise in the areas of consulting, engineering and logistics. This permanently sets us apart from the competition.

VOSS Fluid is present on an international level: alongside our headquarters in Germany, we have sites in France, Poland, Italy, Spain and China. Our network is supplemented by sales partners all over the world. This means that we're always close to our customers.

VOSS in numbers

54

Sales partners in
56 countries

∅ 2,800

order items daily

>40,000

items available for order

>100

million components pass through
VOSS coat electroplating every year



VOSS

LINE SYSTEMS & HIGH-PRESSURE COMPONENTS

In rail technology, flawless operation of the piping system is a top priority, especially in applications relevant to operation, such as braking systems, fire extinguishing systems or the drinking water supply. VOSS Fluid provides compatible, operationally safe solutions that meet the special requirements for fire protection, corrosion resistance and leak protection. As a system provider, we offer a comprehensive program of connection systems - from individual components to ready-to-install high-pressure lines.

- Tube couplings
- Hose fittings
- Measuring technology
- Hydraulic valves
- Pre-assembly devices for hydraulic connections
- ready-to-install hydraulic lines
- Industrial couplings



SOLUTIONS THAT INSPIRE

Rail vehicles

- Freight trains (crane, work train)
- Streetcars
- High-speed trains
- Long-distance and regional traffic

Drive types

- Diesel
- Electrical
- Hydrogen



The product recommendations are merely an excerpt from the extensive VOSS product range.

Application: **Compressed air supply**
 Product recommendations: VOSS Ring^M, VOSS Form^{SCR} ready-to-install lines, VOSS coat components in combination with stainless steel tubes

Application: **Control hydraulics**
 Product recommendations: VOSS Ring^M ready-to-install lines, VOSS coat components in combination with stainless steel tubes

Application: **Train coupling**
 Product recommendations: Couplings made of steel/stainless steel, PTFE hose assemblies with stainless steel braiding

APPLICATION EXAMPLES



Application: **Alternative drive (hydrogen)**
 Product recommendations: VOSS Lok⁴⁰ Stainless steel components with stainless steel tubes

Application: **Drinking water pipes**
 Product recommendations: VOSS ES-4 VA Stainless steel components with stainless steel tubes

Application: **Fire extinguishing system**
 Product recommendations: Steel/stainless steel, check valves and ready-to-install hose assemblies.

Application: **Hydraulic suspension**
 Product recommendations: VOSS Ring^M, VOSS Form^{SCR} ready-to-install lines, VOSS coat components in combination with stainless steel tubes

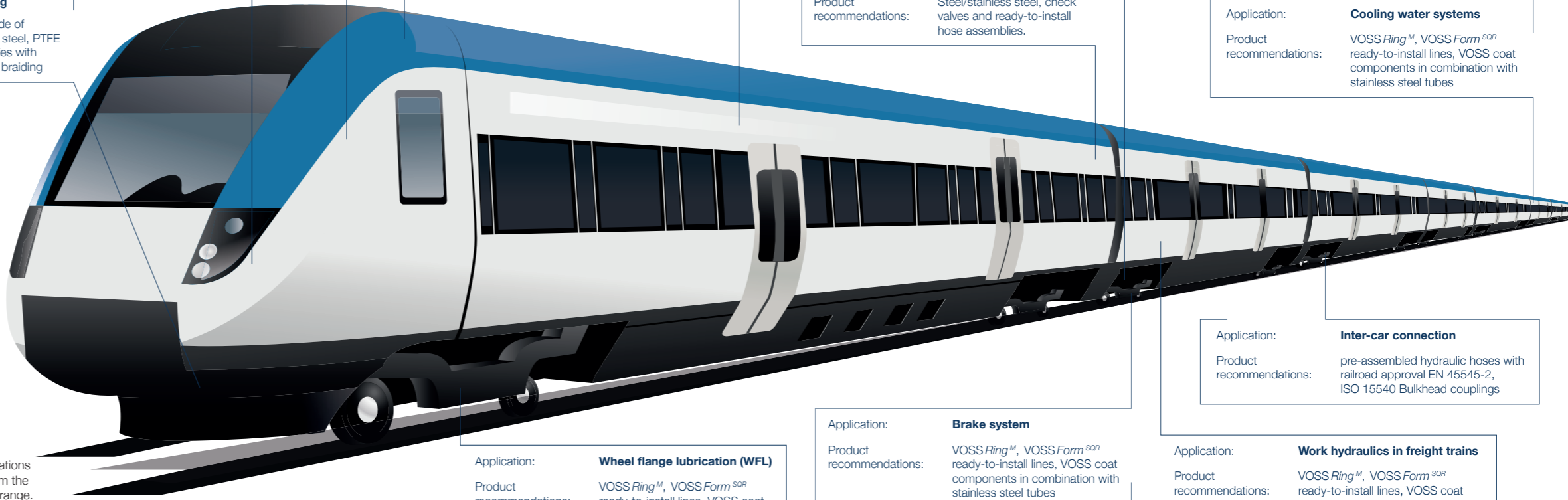
Application: **Cooling water systems**
 Product recommendations: VOSS Ring^M, VOSS Form^{SCR} ready-to-install lines, VOSS coat components in combination with stainless steel tubes

Application: **Inter-car connection**
 Product recommendations: pre-assembled hydraulic hoses with railroad approval EN 45545-2, ISO 15540 Bulkhead couplings

Application: **Brake system**
 Product recommendations: VOSS Ring^M, VOSS Form^{SCR} ready-to-install lines, VOSS coat components in combination with stainless steel tubes

Application: **Work hydraulics in freight trains**
 Product recommendations: VOSS Ring^M, VOSS Form^{SCR} ready-to-install lines, VOSS coat components in combination with stainless steel tubes

Application: **Wheel flange lubrication (WFL)**
 Product recommendations: VOSS Ring^M, VOSS Form^{SCR} ready-to-install lines, VOSS coat components in combination with stainless steel tubes





Certification and approvals

VOSS Fluid is certified according to ISO 9001 and ISO 14001 by TÜV Rheinland. The VOSS hose fittings are approved by major inspection agencies.

- Fire resistance test according to EN ISO 15540
- DNV / GL
- Various product releases according to IACS
- ISO 9001
- ISO 14001
- EC79 for hydrogen applications

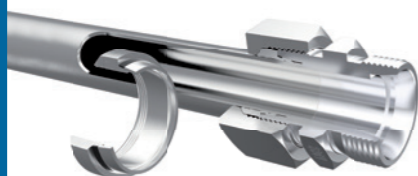
Other approvals on request.

TUBE CONNECTION TECHNOLOGY



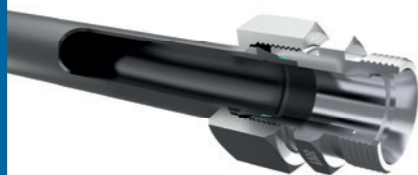
Cutting ring system **VOSS Ring^M**

- Special hardness as standard - maximum safety, pressure load capacity (800 bar) and quality at an advantageous price
- Assembly reliability thanks to patented stop concept
- Highest corrosion-protection with VOSS *coat^{Black}*
- Can be mounted on steel and stainless steel lines



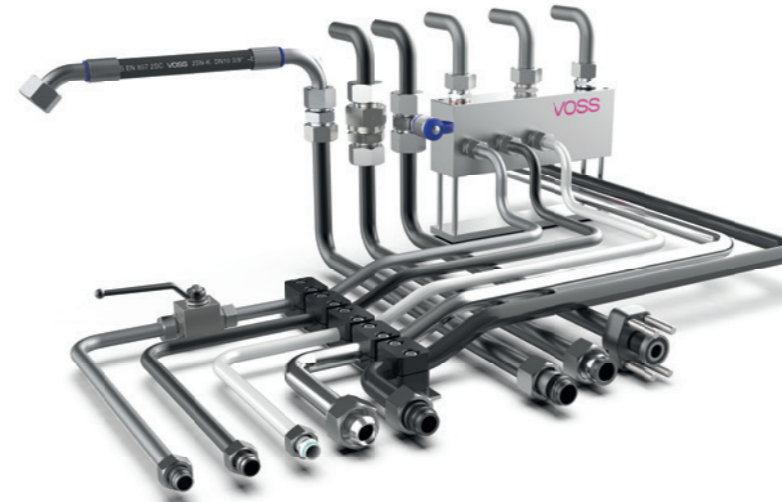
Cutting ring system **VOSS ES-4 VA**

- Greater reliability thanks to the combination of metallic seal and additional soft seal
- Leak protection up to 800 bar
- Available in steel and stainless steel



Tube forming system **VOSS Form^{SQR}**

- Highest load capacity and breakage resistance thanks to SQR functional nut with integrated clamping ring
- Leak protection up to 800 bar
- Available in steel and stainless steel



PRE-ASSEMBLED HOSE LINES

Our extensive assortment of hose fittings can be combined with a large number of hydraulic hoses from various manufacturers.

In addition, we offer solutions for the three standard connecting methods: skive, no skive and double skive. These differ in the peeling of the elastomer in the crimping area and have different application-specific strengths - for example, in terms of their tear-out resistance.

VOSS

READY-TO-INSTALL LINES

With its range of ready-to-install high-pressure lines, VOSS Fluid also provides individually manufactured line systems and customized services. All individual components used are perfectly matched to each other, which ensures maximum functional and leak protection.

Customers benefit from personal advice, individual design and precise production from a single source and, in addition to cost advantages and rationalization effects, are assured of a uniformly high quality standard.





Use of steel cutting rings on steel tube



Pre-assembled assembly unit and line run



Secure assemblies and repeat installations



Tested safety & quality of all installed components



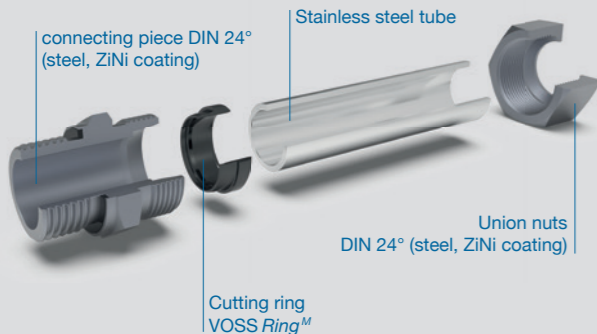
Significant cost advantage compared to similar components made of stainless steel



Availability of all components worldwide in consistent VOSS quality



Components with the proven zinc-nickel VOSS coat corrosion protection



PROVEN MIXED CONSTRUCTION

The perfect example of seamless cooperation between steel and stainless steel.

VOSS connection systems also score points from an economic point of view: Our VOSS Ring^M consists of a special steel material which, due to its special hardness, also offers maximum safety in combination with stainless steel tubes.

This means that the VOSS Ring^M can also be used without hesitation in composite construction between steel and stainless steel components while providing maximum functionality and load-bearing capacity.

CORROSION PROTECTION

VOSS coat – Corrosion resistance in perfection.

Reliable corrosion resistance is of decisive importance for the functionality and longevity of our components.

Our VOSS coat surface coating is based on a zinc-nickel base and stands for corrosion protection in perfection. As a technological leader, we have been using VOSS coat consistently in the entire VOSS product line since 2007, thereby setting the market standard for corrosion-resistance areas.

Your assurance

- 1,000 hours of corrosion resistance under real-life conditions.
- Technology-leading surface as a result of many years of experience, research and development
- Sustainable production in our own VOSS coat Competence Center with in-house electroplating
- Practice-oriented final assembly thanks to optimized coefficients of friction

VOSS



VOSS

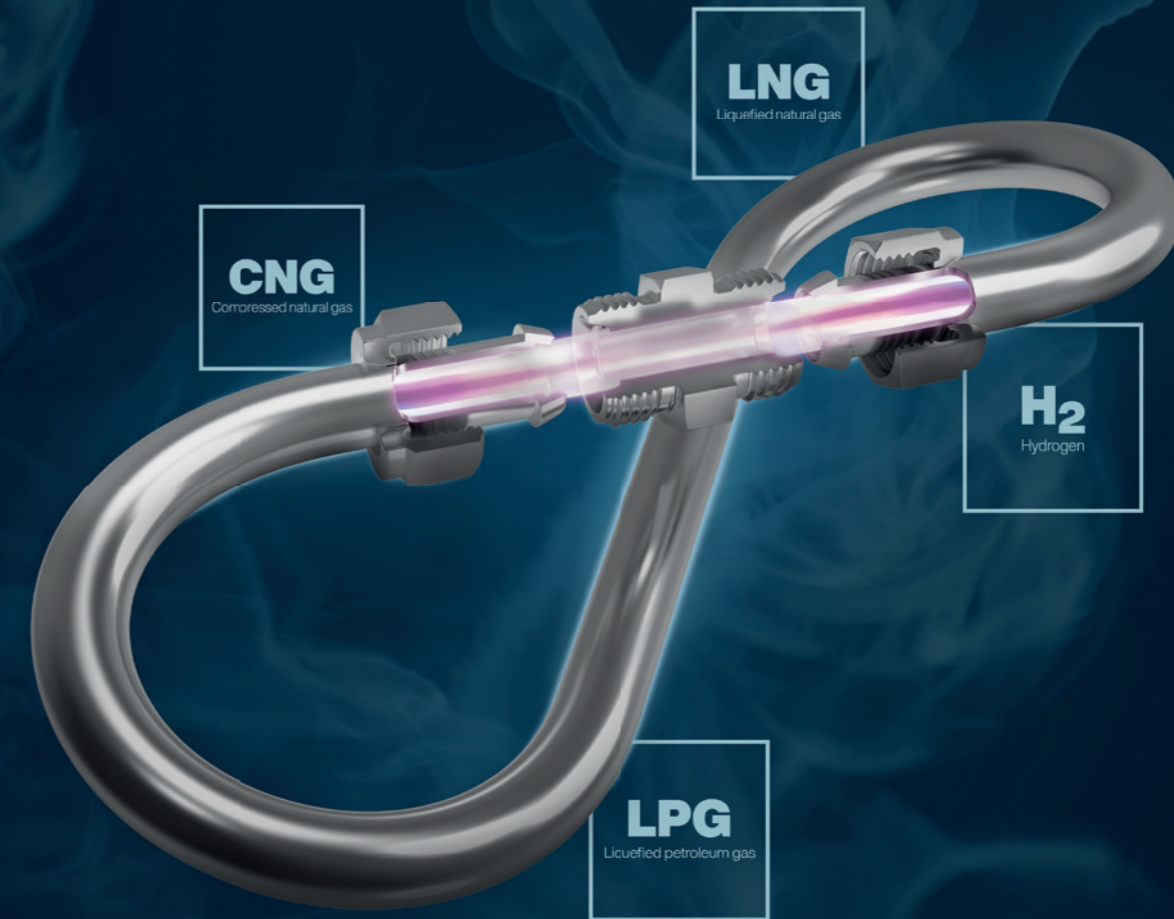
A STRONG CONNECTION

VOSSLok⁴⁰ – The innovative, gas-tight tube forming solution.

The VOSSLok⁴⁰ connection system was specially developed for leak-proof handling of demanding media such as hydrogen or natural gas. With the VOSSLok⁴⁰ forming machine, a sealing and retaining contour is formed at the tube end at a 40° angle. The resulting sealing surfaces ensure maximum tightness under the most demanding conditions. The reliable and simple assembly makes the use of clamping ring systems superfluous.

Product advantages

- High process reliability
- High leak protection
- Simple assembly
- Highly cost-effective
- Appropriate for hydrogen and natural gas



More information

<https://bit.ly/3w9IXOb>

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