

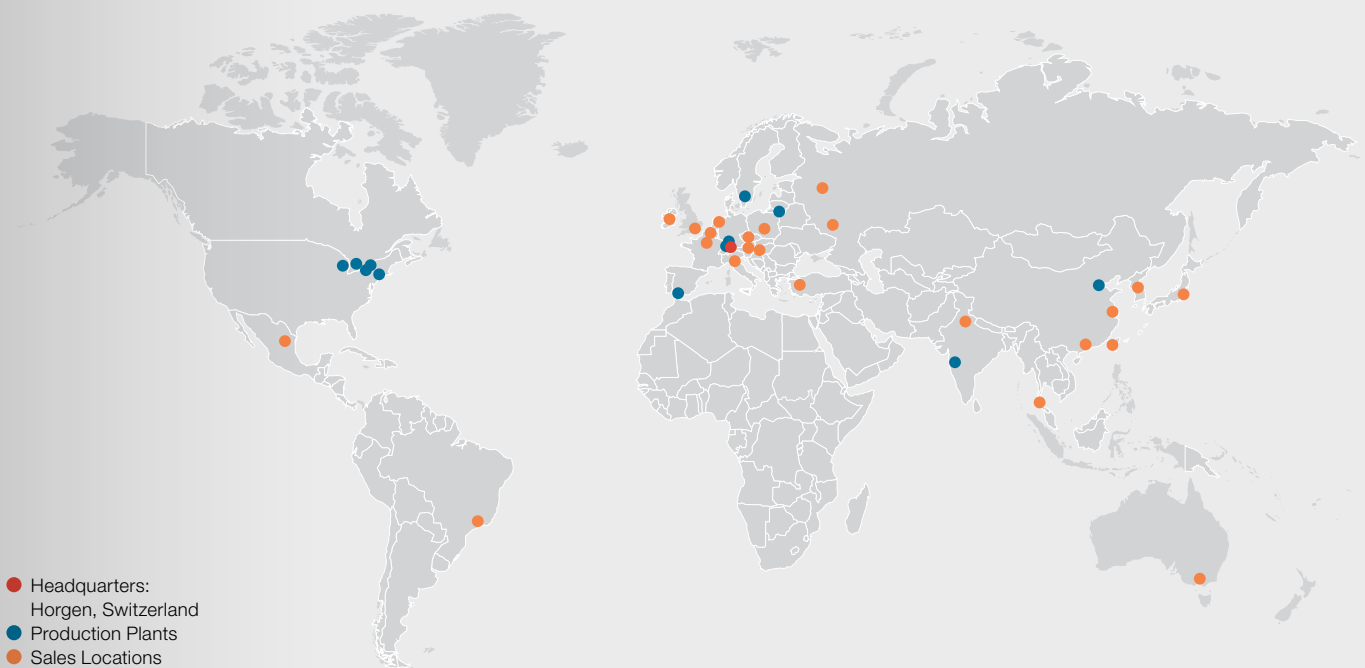
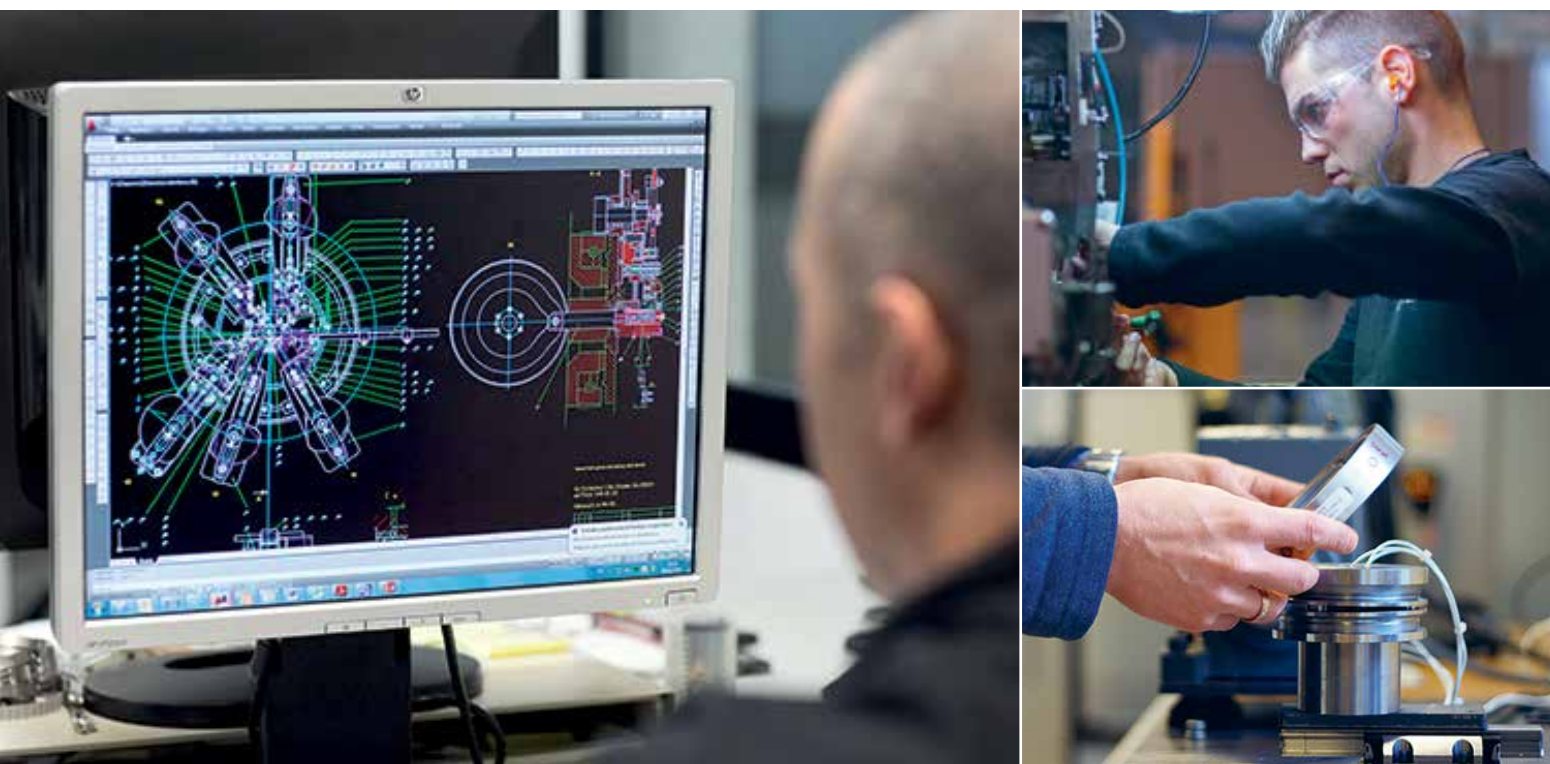
# Connecting Solutions

## Medium & Heavy Commercial Vehicles



Exhaust & Aftertreatment Systems  
Air Intake & Induction Systems  
Coolant & Fluid Systems  
Fuel Tank & Air Vessel Fastening

# A Global Manufacturer of OEM Connecting Solutions



## 360° Solution Approach

Oetiker has established a 360° Solution Approach and commitment with OEM and Tier suppliers around the world. Our capabilities span the spectrum from concept to prototyping and testing through assembly. We also provide follow-up maintenance, services and training. Our engineers and support teams are driven to provide connecting solutions that meet the most challenging vehicle specifications.

Oetiker is a family-owned company headquartered in Horgen, Switzerland. Our international network of production and sales locations enables us to deliver reliable connections to our customers quickly and efficiently.

## Proven for over 80 years

Oetiker's heritage of excellence inspires us every day to continue to earn our position as the market leader for connecting solutions. Each year we design, test and manufacture 2 billion clamps and related products in 13 manufacturing facilities. Our quality is confirmed on more than 90 million vehicles manufactured annually.



# Medium & Heavy Commercial Vehicles

## Meeting the Challenge



We believe every customer connection is critical – within trucks, buses and construction equipment to specialty and off-road vehicles. Technology and regulations are changing rapidly. Our products are developed to comply with the latest requirements and emission standards.

### Engineered for Reliability

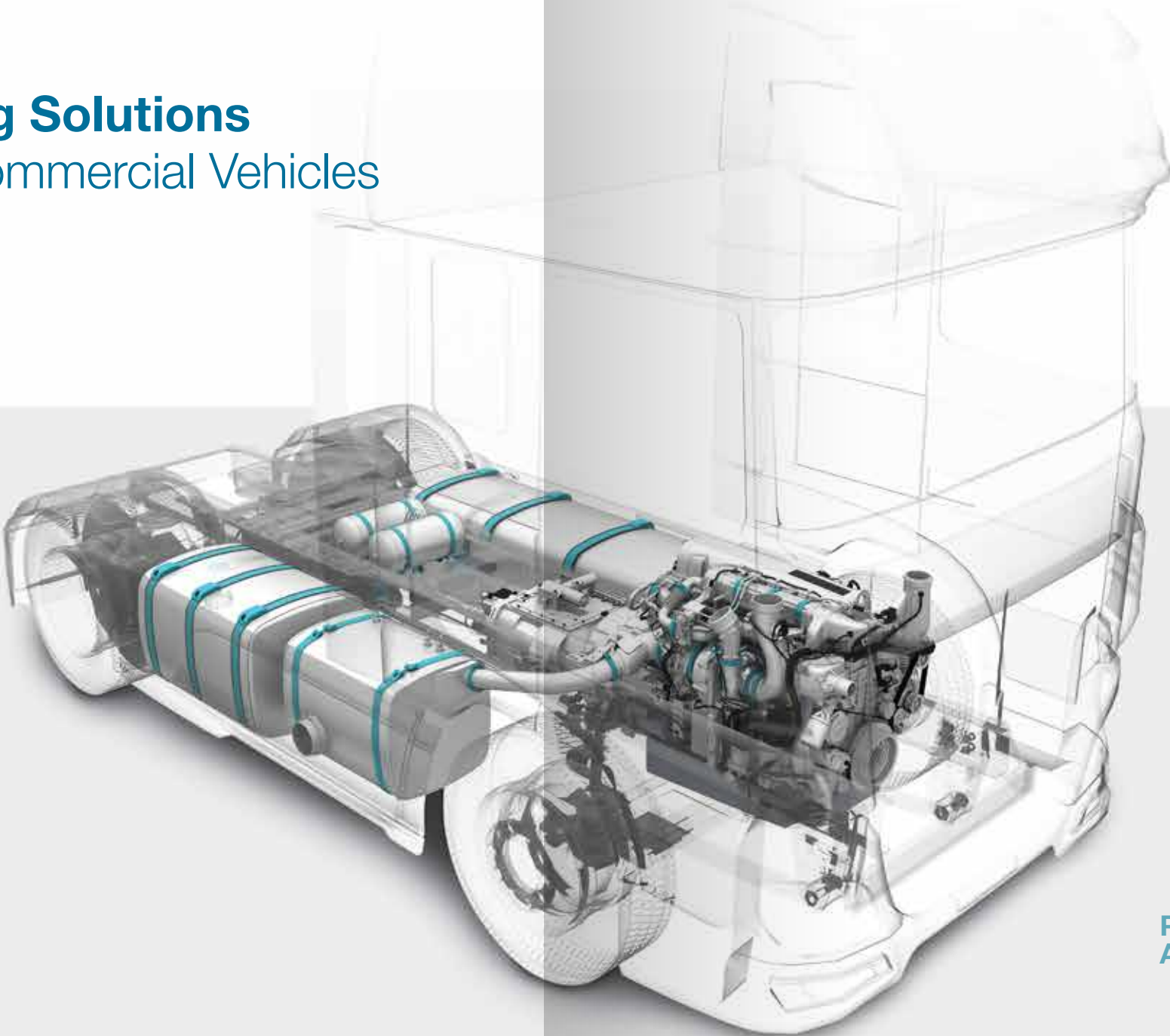
High pressure and high temperature, coupled with increasing demands for durability, efficiency and environmental targets, make reliable connections a critical priority for the medium and heavy commercial vehicle market. Oetiker is recognized worldwide for delivering reliability today, and for proactively offering innovative connections for reliability tomorrow.

Our products offer unique assembly and performance characteristics to:

- **Eliminate leakage**
- **Improve sealing and durability**
- **Increase assembly efficiency and ergonomics**

# Engineered Connecting Solutions


for Medium & Heavy Commercial Vehicles





**TANK FASTENING  
APPLICATIONS**

**POWERTRAIN  
APPLICATIONS**

## Exhaust & Aftertreatment Systems Pages 8–9

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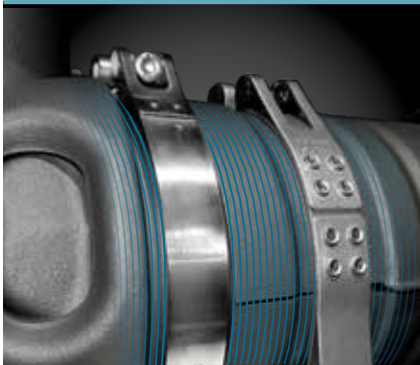
## Fuel Tank & Air Vessel Fastening Pages 14–15

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### Exhaust Connections

Applications such as Exhaust Gas Recirculation Coolers, Turbo Connections and Engine Brakes have extreme temperature requirements. Our connecting solutions offer multiple variants and use alternate grades of stainless steel to ensure long-term sealing and optimize ease of assembly in restricted spaces.



### Exhaust Aftertreatment Systems

For Aftertreatment Systems, we design and produce V-Clamps and Straps. V-Clamps are customized to suit your individual needs in performance, installation and longevity and our Powertrain Straps are engineered based on customer specifications to ensure compatibility, performance and easy implementation.

We are ready for tomorrow's stringent emission regulations with superior high vibration, stress and temperature performance. Oetiker's low-friction trunnion clamp design offers low torque installation for industry leading performance and ergonomics.

Fastening solutions must be tailored to the newest emission systems. Our engineers deliver customized solutions that are adapted to meet the unique needs of our customers, while optimizing cost and performance.



### V-Clamps 280

**Strong Holding & Sealing Capability**

- Precise low friction fastener consistently delivers superior clamping force.
- Self-locking thread retains tightness in high vibration environments.

**Customizable**

- Designed to maximize joint performance with application specific materials, components and profiles.

**Easy Implementation**

- Several fastener styles available to match your existing tools.

**Assembly Efficiency**

- Quick-lock latching mechanism provides effortless swing-action design, no alignment required.

DPF/SCR Straps



### Powertrain Straps 284

**Customized Solutions**

- Various hardware, material and coating options, tailored to specific application requirements.

**Assembly-Friendly:**

- Ergonomically optimized design with pre-shaped layouts.

EGR Cooler Straps







Turbocharger

Turbocharger connections require robust and reliable connections. For these applications, Oetiker's V-Clamp portfolio assures efficient assembly and reliable connections of the housing, air and exhaust interfaces.



Charged Air Connections

Charged air systems need solutions for fast assembly, leak-proof connections and guaranteed reliability. The Oetiker product portfolio meets these requirements, offering high radial loads, 360° sealing and fast and simple installation.

Our product improvement and new product development programs keep us on the cutting edge of charged air technology. Oetiker products help support optimizing the outcome of our customers' programs.



V-Clamps  
280

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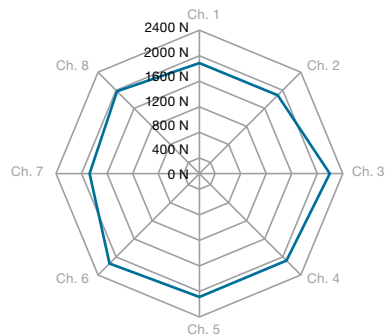
ToothLock<sup>®</sup> Ear Clamps  
293

Outstanding Clamping Performance

- High and permanent compression rates deliver outstanding expansion resistance.
- ToothLock<sup>®</sup> technology delivers high and permanent radial loads with no vibration relaxation for a secure high pressure connection.
- StepLess<sup>®</sup> design provides uniform 360° radial load for an excellent seal.

Assembly-friendly and Reliable

- Designed for fast, efficient installation with process monitoring capability.
- Lightweight design supports weight reduction initiatives.



High radial load due to ToothLock<sup>®</sup> feature for exceptional StepLess<sup>®</sup> sealing requirements.

Ear Clamp Installation





Coolant Hose Connections

Hose assemblies utilizing “T” connections and Quick-Connects are well-suited for using Oetiker products. The high radial load and uniform compression of the Multi Crimp Ring provides robust, leak-free connections.



Fuel, DEF and Oil Line Connections

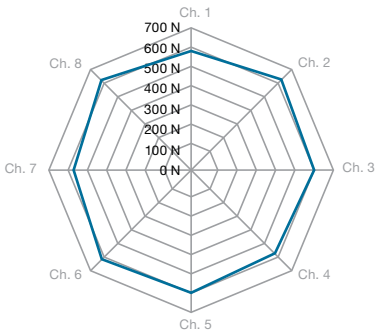
For small diameter hoses, stainless steel StepLess® Ear Clamps 167 ensure a vibration resistant seal with superior reliability and excellent corrosion resistance. The Oetiker ear design provides fast and easy installation.

With an increasing number of connections, sealing integrity and assembly efficiency are paramount. We offer a number of application specific solutions to improve assembly efficiency.



Multi Crimp Rings  
150 & 250

- High Radial Load and Uniform Sealing Performance**
- Smooth band is uniformly swaged around circumference for ultimate strength and sealing performance.
  - Reliable in high compression and high temperature applications.
  - Smooth appearance and low clearance design.



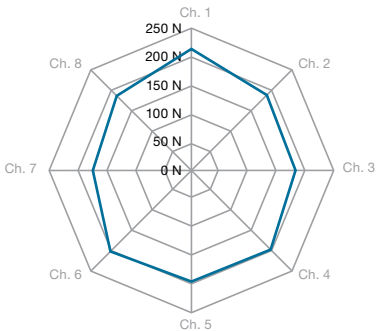
Evenly distributed radial load for exceptional uniform sealing.



StepLess® Ear Clamps  
167

- 360° Sealing Capability**
- Narrow band and StepLess® inner circumference provide a concentrated 360° seal.
  - Quick closing tamper-proof design.
  - Lightweight design supports weight reduction initiatives.

- Assembly-Friendly and Reliable**
- Designed for fast, efficient installation with process monitoring capability.



Evenly distributed radial load for uniform sealing even at small diameters.

StepLess® Design



Worm Drive Clamp Comparison



StepLess® Design

The Oetiker StepLess® design provides a smooth, uniform, 360° seal, eliminating steps and gaps. This feature allows advanced sealing properties, especially with soft or thin wall hoses.



### Fuel Tanks

We offer straps that provide a flawless fit and meet functional requirements for any fuel tank's shape or size. Our ability to provide full support from concept to installation has made Oetiker a preferred partner for many leading OEM's and Tier 1 suppliers.



### Diesel Exhaust Fluid (DEF) Tanks

Oetiker's fastening solutions can meet mechanical and aesthetic requirements in aftertreatment systems for Diesel Exhaust Fluid tanks. We offer products that are compatible with polymer or metallic materials.



### Compressed Air Vessels

We offer a variety of band material options and connector styles, all exceeding typical vibration and load requirements for Compressed Air Vessels.

Oetiker's large offering of standardized and custom strap products demonstrates our commitment to consult and collaborate with customers on materials and components, to deliver the right solution for any application.

Fuel Tank Strap



DEF Tank Strap



Air Vessel Straps



### Tank Straps 283

#### Custom Engineered

- Materials, coatings and liners are selected to meet technical and assembly requirements.
- Hardware options including bolts, loop and bracket attachments are selected to suit customer needs.

#### Performance

- Strap design offers flexibility, durability and consistent mechanical performance, all exceeding vehicle design criteria.





Oetiker offers a range of assembly tools for the efficient and reliable installation of our clamp products. We have a complete portfolio of options from hand installation pincers to calibrated electromechanical systems with process-data tracking capability.

Clamp Installation Videos

Install clamps quickly and easily



[www.oetiker.com](http://www.oetiker.com)



Hand Installation Tools



Manual Assembly Tools for installation of the complete range of Oetiker products.

- Quick and easy installation
- Exponential gain of mechanical advantage
- Secure grip and comfort
- Reduced fatigue and risk of repetitive injury

Cordless Pincers



For assembly of Ear Clamps, Low Profile Clamps, Multi Crimp Rings (MCR)

- Flexible cordless design
- Process reliable
- Closure verification
- Ergonomic design

Pneumatic Pincers



For assembly of Ear Clamps and Low Profile Clamps.

- Highly efficient
- Process reliable
- Closure verification
- Ergonomic pistol grip (optional)

Swaging Tools



For installation of Multi Crimp Rings (MCR)

- Available interlocking swaging segments guarantee uninterrupted 360° compression
- Fully reliable assembly process
- Electronic process data tracking capability

Please consult an Oetiker representative or visit [www.oetiker.com](http://www.oetiker.com) for a complete range of assembly tool options.

For further information and product support,  
please contact us at **[www.oetiker.com](http://www.oetiker.com)**



**Reliable Connections**