

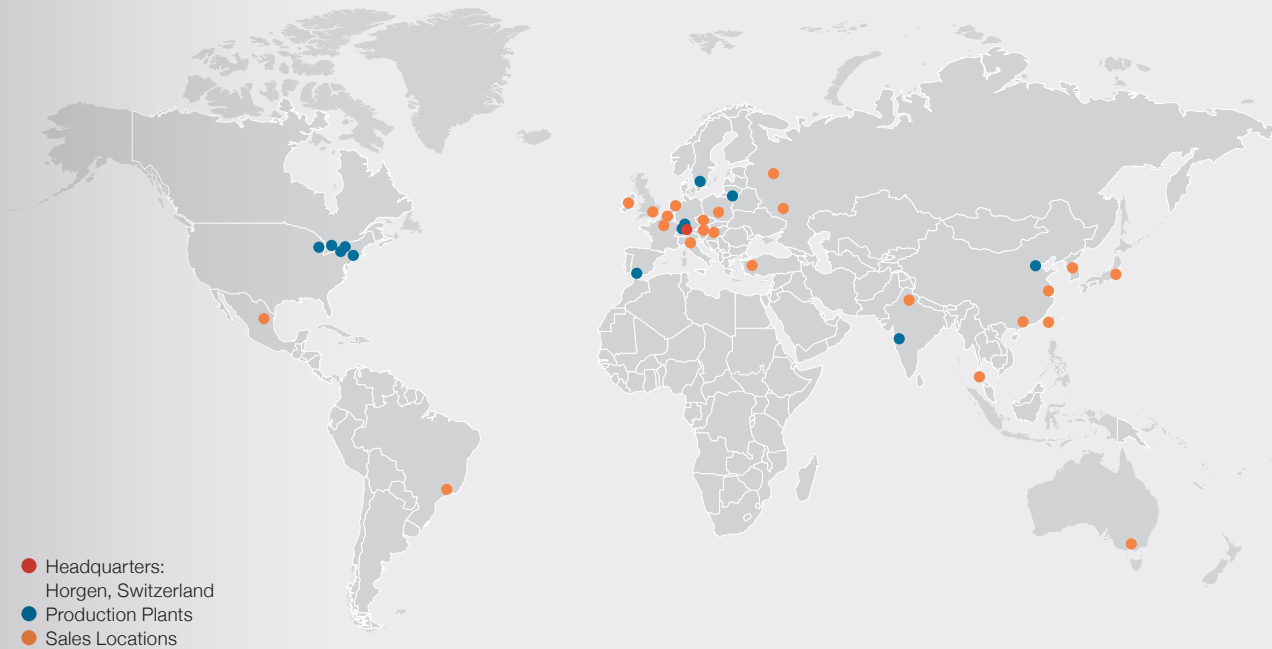
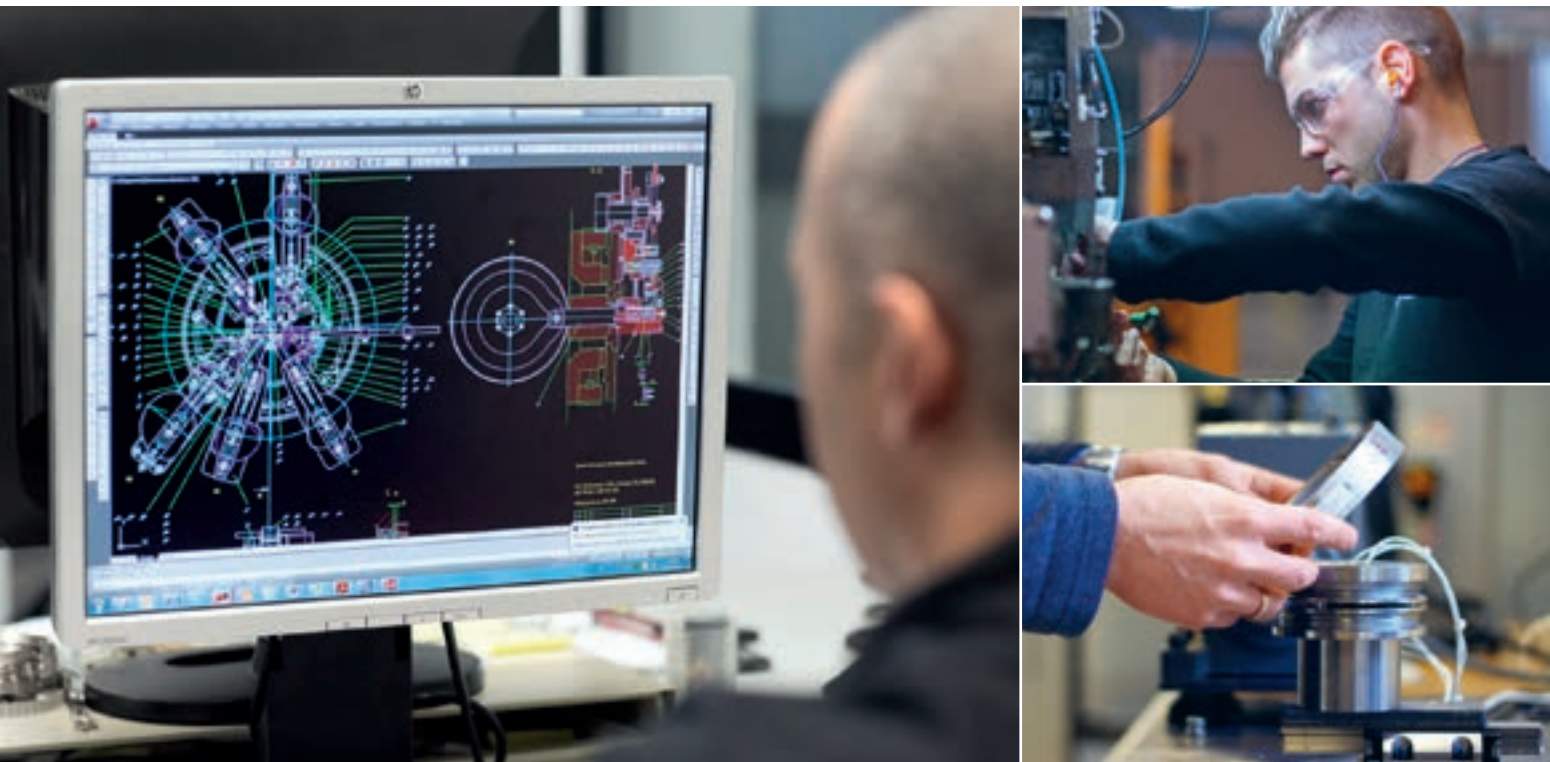
Connecting Solutions for Commercial and Industrial Vehicles



Aftertreatment & Emission Systems
Air Intake & Induction Systems
Coolant & Fluid Hose Connections
Tank Fastening Connections
Steering & Driveline Systems



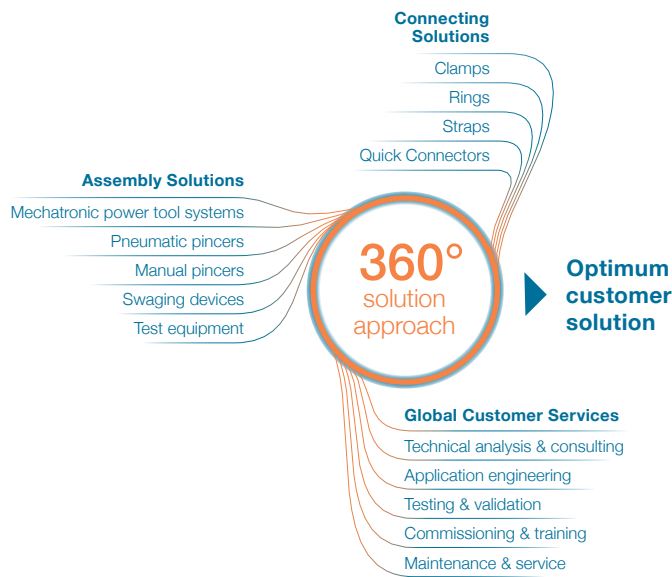
A Global Manufacturer of OEM Connecting Solutions



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 75 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 almost 2 billion clamps and related products in 13 manufacturing facilities. Our quality is confirmed on more than 90 million vehicles manufactured annually.

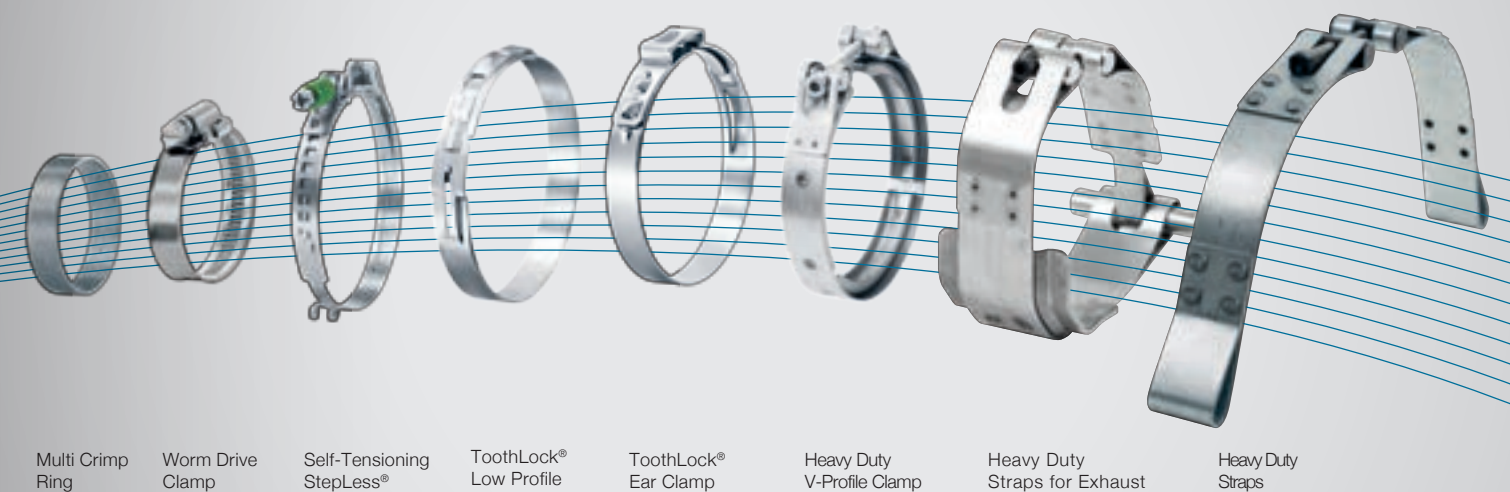


360° Solution Approach

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.

Commercial and Industrial 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 higher performance, make reliable connections a critical priority for the commercial and industrial 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:

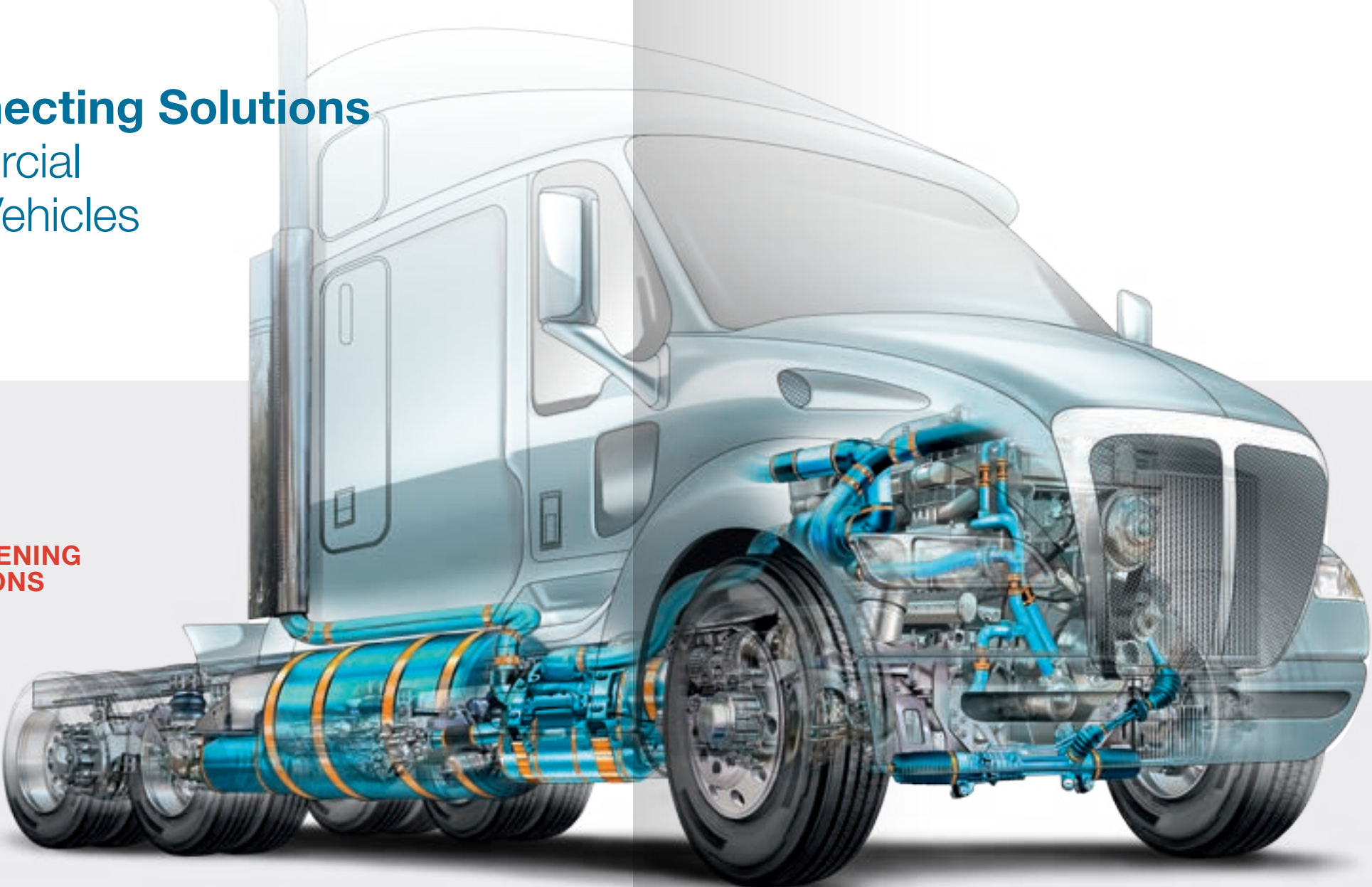
- Eliminate coolant leakage
- Improve emission sealing and durability
- Increase assembly efficiency and ergonomics

Engineered Connecting Solutions

for Commercial
and Industrial Vehicles



**TANK FASTENING
APPLICATIONS**



**DRIVETRAIN
APPLICATIONS**

**POWERTRAIN
APPLICATIONS**

Exhaust Aftertreatment & Emission Systems Pages 8–11

	Heavy Duty V-Profile Clamp 280
	Heavy Duty Strap 283

Air Intake & Induction Systems Pages 12–13

	Heavy Duty V-Profile Clamp 280
	ToothLock® Ear Clamp 293

Coolant Hose Connections Pages 14–15

	Multi Crimp Ring 150
	Self Tensioning StepLess® Screw Clamps 178

Fluid Hose Connections Pages 16–17

	Multi Crimp Ring 150
	StepLess® Ear Clamp 167

Tanks & Vessels Pages 18–19

	Tank Strap 283
	Air Vessel Strap 283

Steering & Driveline Systems Pages 20–21

	StepLess® Ear Clamp 167
	ToothLock® Low Profile Clamp 292



Exhaust Aftertreatment Systems

We design and produce V-Profile clamps, in diameters up to 1000 mm, for both discrete DOC/DPF/SCR units as well as next generation integrated units. We develop products to suit your individual needs, customized to optimize performance, installation, and longevity.



Engine 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.

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



Heavy Duty V-Profile Clamp 280

Stronger Sealing Capability

- 25 % increased sealing capability compared to conventional V-Profile clamp designs.
- Low friction bolt and solid trunnion eliminates torque losses, increases axial loads and gasket sealing for greater mechanical efficiency.
- V-Profile design engineered to suit specific profile geometry for optimum axial load distribution.

Improved Ergonomics

- Low torque installation with high axial load.
- Clamp opens fully and closes easily with visible Quick-lock latching mechanism.



High Performance V-Profile Clamp 280

Superior Sealing Capability

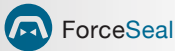
- Unique bolt and washer design delivers high-performance V-Profile clamp sealing.
- Solid trunnion option generates stronger sealing capability compared to Quick-lock trunnion.

Improved Ergonomics

- Hex-head bolt and low torque installation provides improved assembly ergonomics.
- Clamp opens fully and closes easily with visible Quick-lock latching mechanism.

Durability

- Prevailing torque thread supports vibration resistance.
- Various materials available to support heat resistance requirements.



Quick-lock



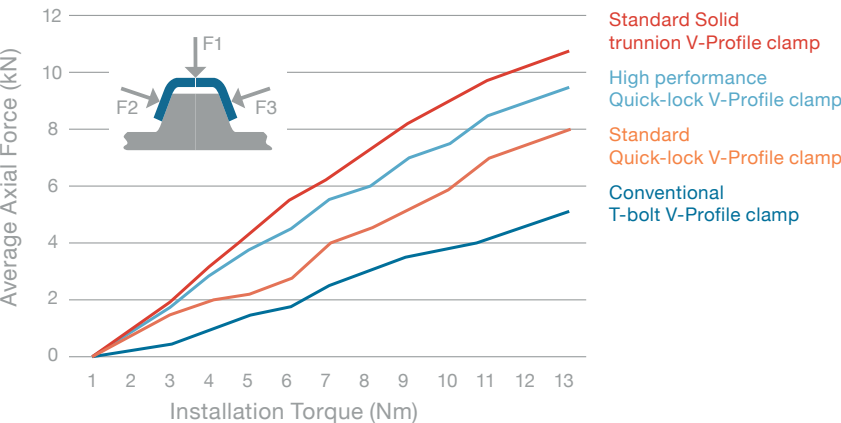
Quick-lock latching mechanism for easy opening and easy assembly

Solid Trunnion



Solid trunnion generates highest sealing capability

Typical High Load/Low Torque Performance





Diesel Particulate Filter (DPF)

Oetiker engineering adapts material, hardware and mounting systems to ensure compatibility with a variety of exhaust aftertreatment systems on next generation vehicles. Our customized strap designs meet OEM requirements.



Exhaust Gas Recirculation Cooler (EGR Cooler)

EGR Coolers require high heat and high strength solutions. Oetiker produces straps based on customer specifications to meet technical requirements. We also offer a variety of articulating and mounting options.

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

DPF/SCR Straps



Heavy Duty Straps
283

Customized Solutions

- Heavy Duty Straps are customizable with various hardware, material and coating options, tailored to specific application requirements.

Durability and Performance

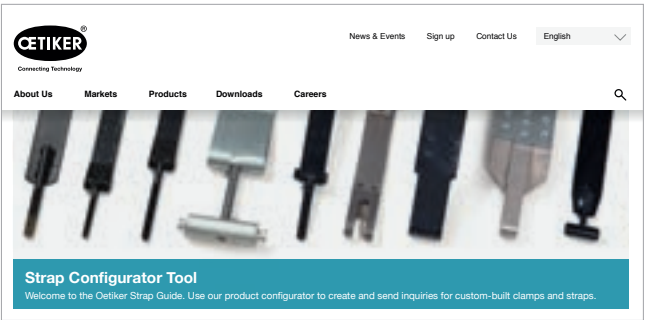
- Proprietary weld technology for stainless band delivers outstanding fatigue resistance.
- Clinch rivet, pre-coated steel, and a variety of materials provide outstanding corrosion resistance.

EGR Cooler Straps

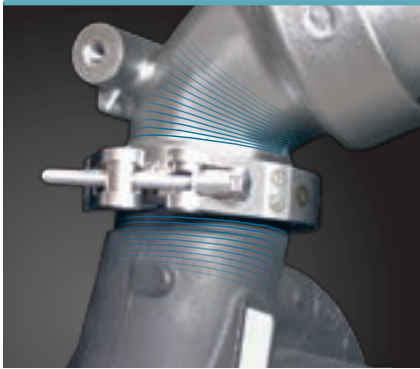


Strap Configurator Tool

Customize straps according to your needs.



Visit strapguide.oetiker.com



Turbocharger

Turbocharger connections require robust and reliable connections. For these applications, Oetiker's V-Profile 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 growing 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.



Heavy Duty V-Profile Clamp
280

Strong Sealing Capability

- 25 % increased sealing capability compared to conventional V-Profile clamp designs.
- Low friction bolt and solid trunnion eliminate torque losses, increasing axial loads and gasket sealing for greater mechanical efficiency.
- V-Profile clamp design is engineered to suit specific profile geometry for optimum axial load distribution.

Improved Ergonomics

- Low torque installation with high axial load.
- Clamp opens fully and closes easily with visible Quick-lock latching mechanism.



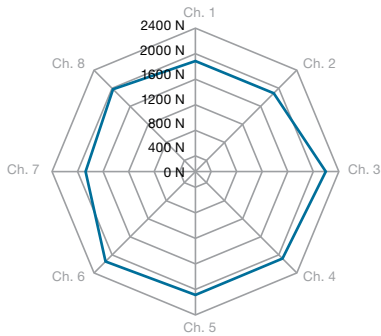
ToothLock® Ear Clamp
293

Outstanding Clamping Performance

- High and permanent compression rates deliver outstanding expansion resistance.
- ToothLock® technology delivers high and permanent radial load with no vibration relaxation for secure high pressure connection.
- StepLess® 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® feature for exceptional StepLess sealing requirements.

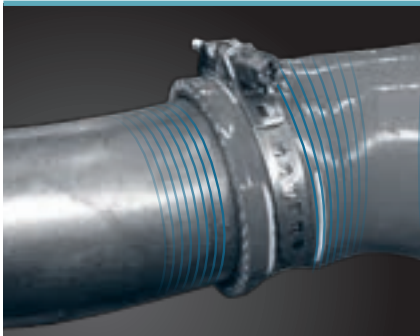
Ear Clamp Installation





Coolant Hose Connections

Hose assemblies utilizing “T”Connections and Quick-Connects are well-suited for using Oetiker’s products. The high radial load and uniform compression of the Multi-Crimp Ring provides robust, leak-free connections.



Radiator Hose Connections

Large diameter coolant connections are subject to thermal cycling and increasing pressures. Our Self-Tensioning StepLess® Screw Clamps maintain constant tension throughout extremely low to very high temperatures. This product is designed for advanced sealing hose technologies, particularly for silicone hoses.

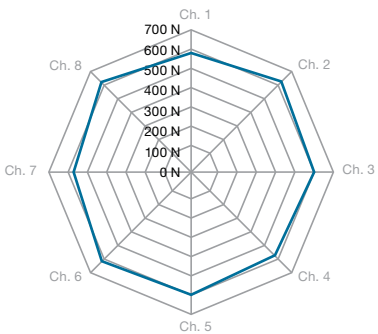
Oetiker engineering is keeping pace with high-demand thermal management requirements. We offer application specific solutions for an increasing number of connections, all delivering superior sealing integrity and assembly efficiency.



Multi Crimp Ring
150

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.



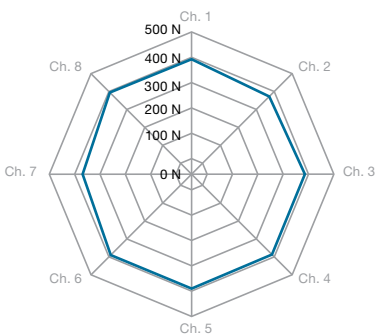
Evenly distributed radial load for exceptional uniform sealing.



Self Tensioning StepLess® Screw Clamp
178

Durable Sealing over Wide Temperature Range

- Constant tension for excellent cold temperature sealing.
- Consistent radial load over temperature cycle ranging from -40°C to +120°C.
- StepLess® design for a smooth inner circumference and uniform 360° seal.



Evenly distributed radial load for uniform sealing through temperature fluctuations.



Fuel, DEF and Oil Line Connections

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

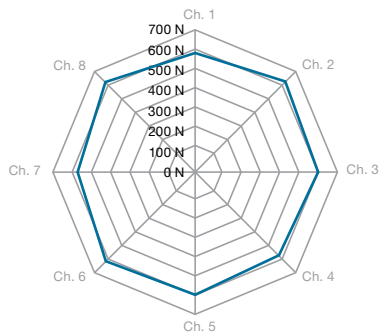
With an increasing number of connections, sealing integrity and assembly efficiency are paramount. We offer a number of application specific solutions to improve assembly efficiency.



Multi Crimp Ring
150

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.



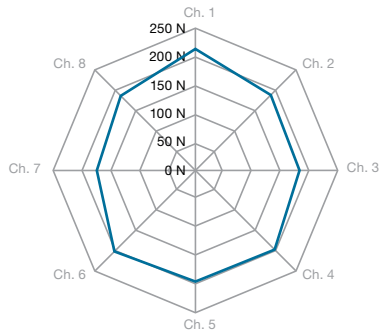
StepLess® Ear Clamp
167

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

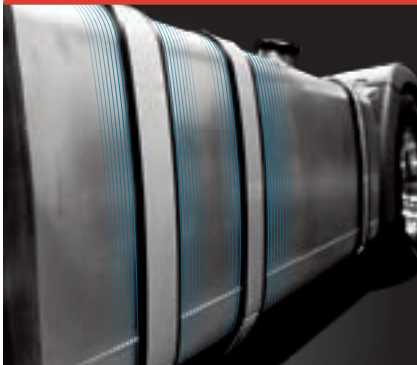


Worm Drive Clamp Comparison



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 most 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



Heavy Duty Straps
283

Custom Engineered

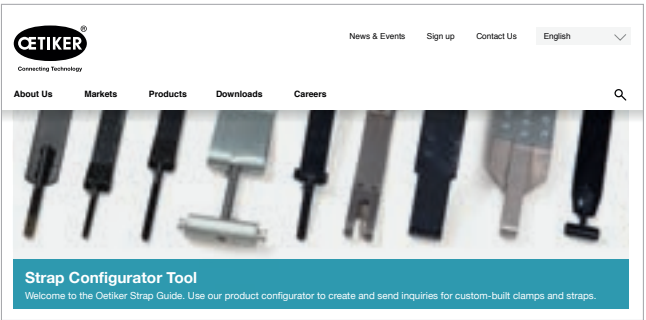
- Materials, coatings and liners are selected to meet technical and assembly requirements.
- Hardware options including bolts, loop and bracket attachments are selected to suit customer needs
- Proprietary fatigue resistant welds for stainless bands.
- Clinch rivet for pre-coated steel bands.

Performance

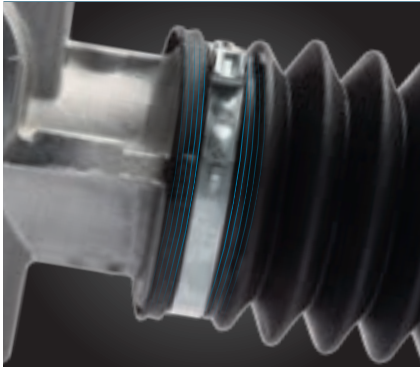
- Strap design offers flexibility, durability and consistent mechanical performance, all exceeding vehicle design criteria.

Strap Configurator Tool

Customize straps according to your needs.

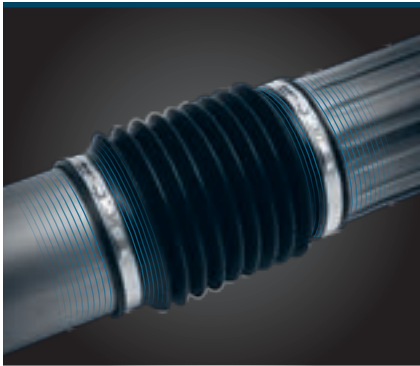


Visit strapguide.oetiker.com



Steering System Connections

A reliable and precise steering system is essential to any vehicle as technology continues to advance. Oetiker products support advances in steering technology with durable and secure connections for rack and pinion, telescoping systems and steering fluid return lines.



Driveshaft Connections

Oetiker has always been a leader in developing clamp products for drivetrain systems. Today we offer connecting options for the most advanced boot materials and designs.

Oetiker has a heritage of commitment to support advancement in drivetrain connection options.



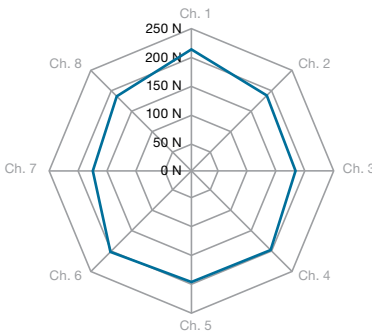
StepLess® Ear Clamp 167

360° Sealing Capability

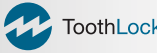
- Narrow band and StepLess® inner circumference provides a concentrated 360° seal.
- Quick closing tamper-proof design.
- Lightweight design supports weight reduction initiatives.

Assembly-Friendly and Reliable

- Designed for fast, efficient installation with process monitoring tracking capability.



Evenly distributed radial load for uniform sealing.



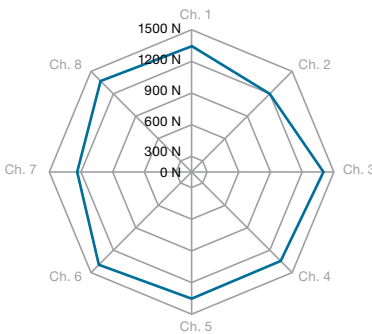
ToothLock® Low Profile Clamp 292

Outstanding Clamping Performance

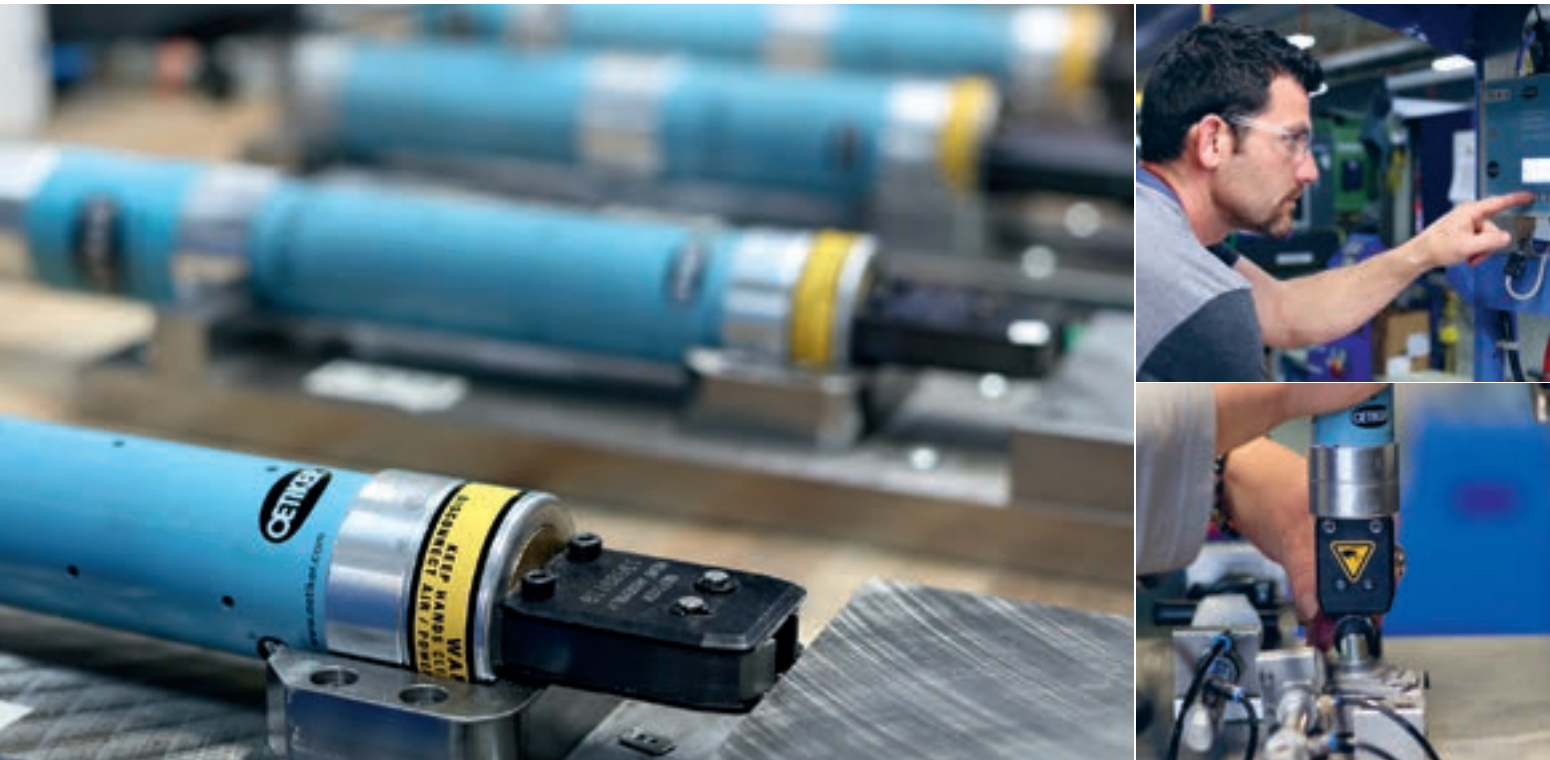
- High and permanent compression rates and low profile configuration were designed specifically for rotating shafts.
- ToothLock® technology delivers high and permanent radial load with vibration relaxation.
- StepLess® design provides uniform 360° seal.

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® feature for exceptional sealing requirements.



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

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

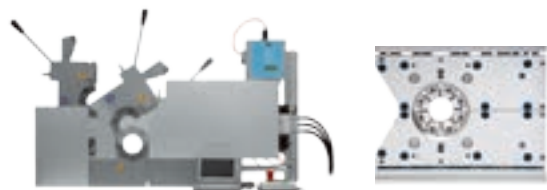
Pneumatic Pincers



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 for a complete range of assembly tool options.

For further information and product support,
please contact us at **www.oetiker.com**

