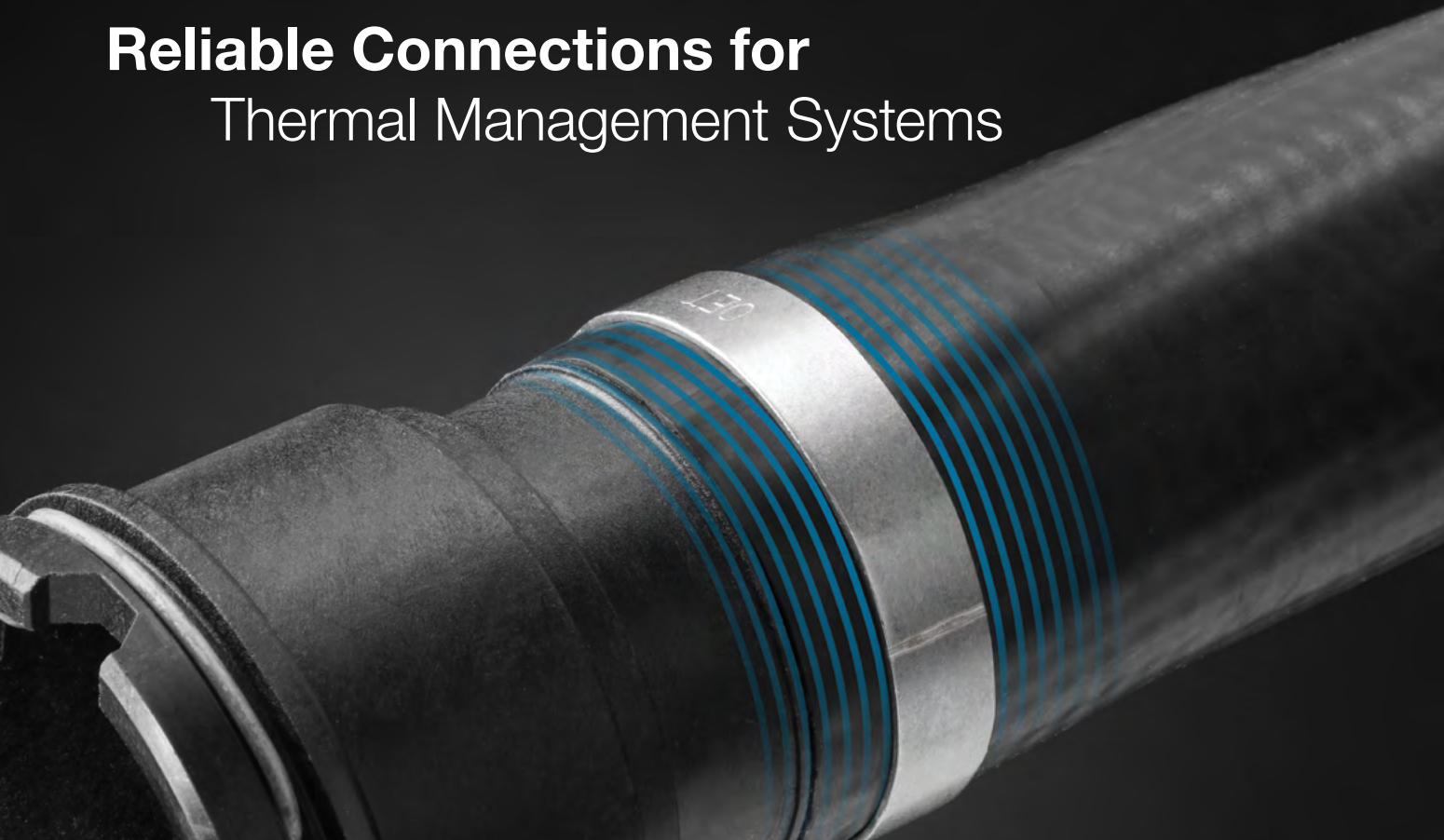


# Reliable Connections for Thermal Management Systems



High performance  
Assembly friendly  
Space efficient



Reliable Connections

## Thermal Management Systems

Today's thermal management systems are becoming increasingly complex, requiring high performing connections that are space efficient, reliably installed and monitored. Oetiker's complete portfolio of mission-critical connections provides trusted, leak-free solutions that meet even the most stringent performance and assembly requirements.

As a trusted, long-term supplier, customers count on Oetiker to provide peace of mind for a wide range of proven automotive connections. Pioneering reliable fastening components for over 75 years, we design, test and deliver high quality connecting and assembly solutions that are simpler, smarter and stronger than ever before.

## Global Customer Support

### For all Phases of Development

#### Advanced Engineering

- Consultative engineering
- Dedicated localized support
- Rapid prototyping and machining
- CAD modeling & 3D printing

#### Early Development

- Technical design analysis
- Custom-build solutions
- Tailor-made prototypes
- Functional testing

#### Systems Integration

- Advanced testing & validation
- Assembly solution engineering
- Tailored assembly tools
- Pre-production support

#### Production

- Global quality assurance
- Worldwide production
- On-site technical support
- Commissioning & maintenance

#### Support & Maintenance

- Tool training and assistance
- Assembly validation
- Maintenance and calibration
- Tool and software upgrades

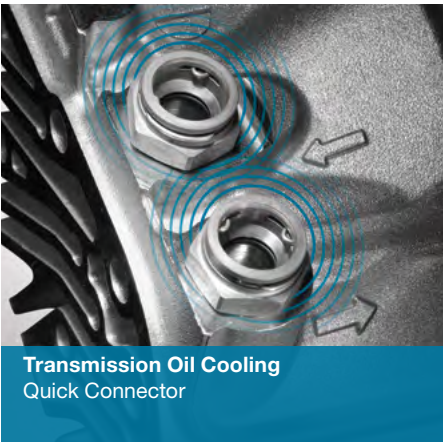
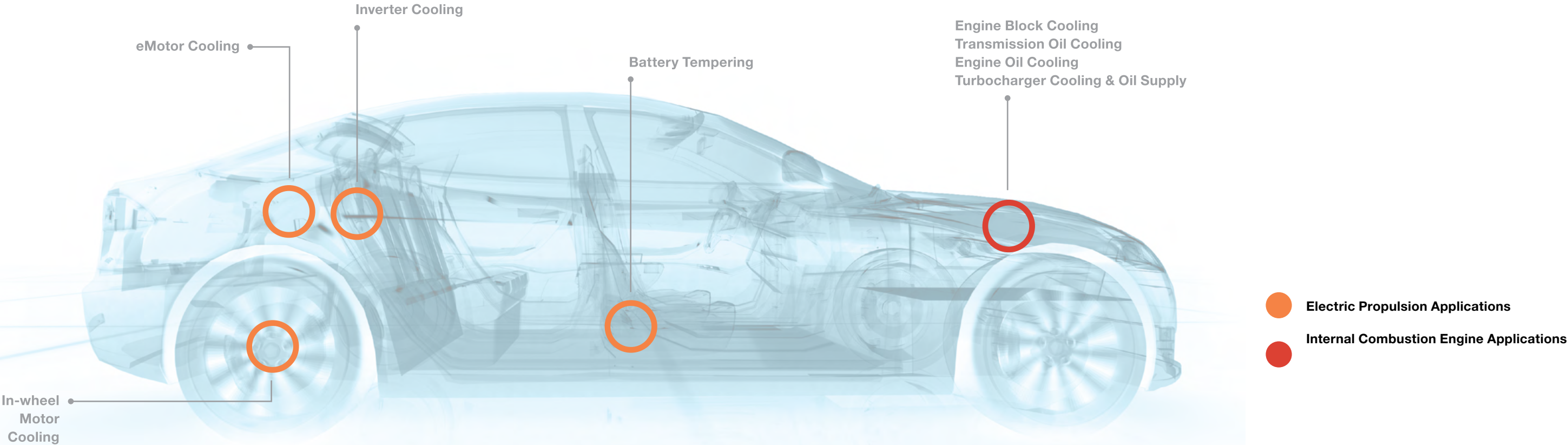


# Tailored solutions

Engineered for reliability



Our quality is confirmed on more than 90 million vehicles annually and featured on virtually every vehicle manufactured globally.





# GLOBAL FOOTPRINT AND LONG-TERM COMMITMENT

With 13 manufacturing facilities worldwide producing more than 2 billion connections per year in over 30 countries, Oetiker is the trusted, global, long-term partner of the world’s leading OEMs.

## COOLING & HEATING CONNECTIONS



**Multi Crimp Rings  
250 & 150**

Stainless steel  
5.0 – 120.5 mm

Full material cross-section over 360° for constant pressure applied uniformly around the circumference offers leak-free sealing with low assembled height.



**Reusable Low Profile Clamps  
268**

Stainless steel  
22.5 – 41.0 mm

Provides a 360° leak-free seal. Can be repeatedly opened and re-installed. Novel tensioning hook design provides fast and reliable high-volume assembly with monitored tools. Curled edges provides reduced risk of damage to parts being clamped and improved ergonomics during assembly.



**StepLess® Ear Clamps  
193 & 167**

Stainless steel  
6.5 – 120.5 mm\*

Provides a 360° leak-free seal. Lightweight, strong, tamper-resistant design. Offers high radial loads and compensates for component tolerances.

\*6.5 – 18.0 mm sizes available in the StepLess® Ear Clamp 167 design.



**StepLess® Screw Clamps  
178**

Stainless steel  
18.0 – 255.0 mm

Can be adjusted to several diameters and features a 360° leak-proof seal. Also available in Self-Tensioning. Reusable.



**StepLess® Low Profile Clamps  
192**

Stainless steel  
19.5 – 120.5 mm

Low profile design includes tolerance compensation elements to allow for variations in component tolerances. Includes 360° leak-proof seal.

Please [contact](#) an Oetiker representative for a complete range of product options.



## COOLING & HEATING CONNECTIONS



### Quick Connectors 201 & 210

**201** Coated steel  
**210** Aluminum

Tube size range: 8.0 – 25.4 mm

One piece machined body is lightweight and ideal for compact spaces. Controlled axial clearance prevents micro leakage. Minimum pressure drop ensures optimum flow.



### Quick Connector Customization

Quick connectors can be customized in a variety of ways. Additional accessories also available.

Customization:  
Material  
Coatings  
Seals  
Valves  
Application interfaces

Accessories:  
Assurance Caps  
Shipping Plugs  
Disconnect Tools

## LAUNCHING IN 2022



### Ultra-compact Polymer Quick Connector

Our newly engineered ultra-compact polymer quick connector uses half of the space of competing solutions. EV Design Engineers can now build the biggest ideas in the tightest spaces.

Contact Oetiker for more information.

## QUICK CONNECTOR ACCESSORIES



### Assurance Caps

Provides assembler with the means to identify an incomplete connection. By placing the optional assurance cap on the tube, it cannot be slid over the retainer in the event of a partial connection.

Default: up to 85°C (black or grey)  
High temperature: up to 230°C (white)



### Disconnect Tools

Size - 3/8", 1/2", 5/8", 3/4"



### Shipping Plugs

Size - 1/4", 3/8", 1/2", 5/8", 3/4"



### Connection Verification Aids

Provides reliable process monitoring for Oetiker Quick Connectors in a space-efficient system, at vehicle point of assembly.



### Locking Assurance Caps

For 201 & 210 Quick Connectors

Serves as a device to provide 100% confidence the tube is fully seated into the quick connector and features a durable secondary latch.

# PEACE OF MIND FROM RELIABLE CONNECTIONS

Assembly tool and maintenance support are managed through dedicated in-house service teams, ensuring cooling & heating connections are installed properly every time during production.



## ASSEMBLY TOOLS



### Swaging Tools

**For high-volume installation of Multi Crimp Rings.**  
Available interlocking swaging segments guarantee uninterrupted 360° compression  
Fully reliable assembly process  
Electronic process data tracking capability



### Pneumatic Pincers

**For high-volume assembly of Ear Clamps and Low Profile Clamps.**  
Highly efficient  
Process reliable  
Closure verification  
Ergonomic pistol grip (optional)



### Cordless Pincers

**For assembly of Ear Clamps, Low Profile Clamps, Multi Crimp Rings (MCR)**  
Flexible cordless design  
Process reliable  
Closure verification  
Ergonomic design



### Hand Installation Tools

**Manual Assembly Tools for installation of Oetiker products.**  
Quick and easy installation  
Exponential gain of mechanical advantage  
Secure grip and comfort  
Reduced fatigue and risk of repetitive injury



Please [contact](#) an Oetiker representative for a complete range of product options.



# 360° solution approach

## Drives innovation

Oetiker helps customers drive innovation through all phases of development by utilizing our 360° solution approach. Pioneering reliable fastening components for over 75 years, we design, test and deliver high quality connecting and assembly solutions that are simpler, smarter and stronger than ever before.

