



# Turbocharger Essentials & DBI Protection Solutions

Enhancing Performance, Safety & Reliability





**DBI:  
Your End-to-End  
Global Solution  
Supplier**

**1**



**Turbocharger  
Protected  
Applications**

**2**



**Turbocharger  
Protection  
Solutions**

**3**



**We take protecting  
your business  
as seriously as you do!**

# We provide solutions for the following segments...



## MOBILITY



- **New Energy Vehicle (NEV) Application** Protection Solutions: Enhancing Performance & Reliability
- Reliable **Protection for Internal Combustion Engine (ICE) Vehicles** During Handling, Transportation, and Storage



## INFRASTRUCTURE

- Efficient protection solutions **for pipes and installations** during production, storage and transportation
- Wide portfolio of smart solutions for both gas and portable water solutions



## RENEWABLE ENERGY

- Effective protection of **renewable energy** systems from finish to final assembly
- Wide range of protective cap and plug solutions

# Complete Protection & Services at Every Stage



We Are Your Partner for Efficient and Reliable Supply



## Quality & Cleanroom Assurance

As an IATF 16949-certified manufacturer with cleanroom facilities, DBI ensures top-tier protection solutions and operational reliability.



## Sustainable & Custom Packaging

Our reusable, recyclable KLT containers and customizable inner packaging options enhance supply chain efficiency while promoting sustainability.



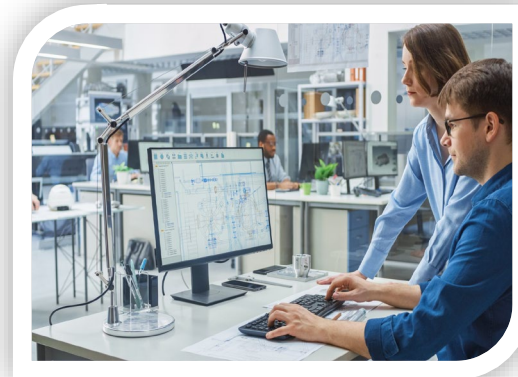
## Global Expertise

Our application specialists engage with you on-site worldwide, offering tailored advice and communication in your local language.



## Additional Services

We provide ESD packaging, custom labeling, and EDI solutions for efficient, high-quality support.





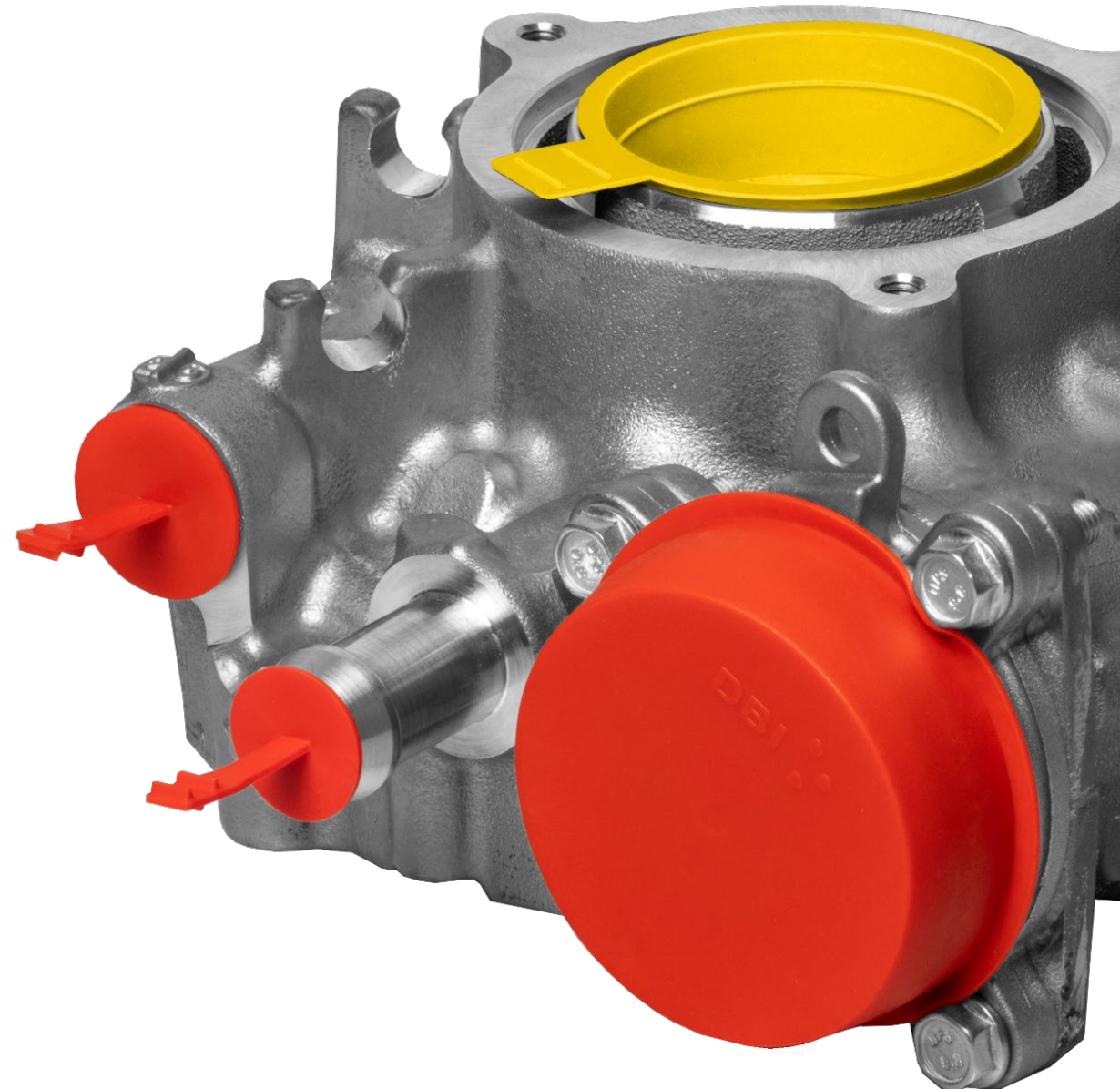
## Effective protection from finish to final assembly

Protecting your products during production, storage, transport and final assembly is vital to ensure optimal product performance



## Extreme care of highly specialised parts

The more advanced systems - the more sensitive to impurities



# Reduce Your Impact With Our Sustainable Solutions



Find the Perfect Protection Fit for Your Needs



## DBIBio™

Protective Virgin Fossil-free  
Solutions from Bioplastics

- Over 30% CO<sub>2</sub> reduction
- High quality, pure & recyclable
- Supports sustainability goals
- Available in BIO LDPE, BIO HDPE, BIO EVA



## DBIRecycle™

Recycled Protective  
Solutions

- CO<sub>2</sub> reduction up to 25%
- 100% recycled raw materials
- High quality & recyclable
- Available in Recycled LDPE

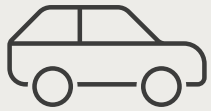


## DBILoop™

Return and Recycling  
Service

- Reduces CO<sub>2</sub> emissions
- Supports sustainability initiatives
- Boosts sustainability
- Strengthens CSR position

# DBI: Your End-to-End Global Solution Supplier



Specialist in  
Protection  
Solutions



Adherence to  
Industry  
Standards



Streamlined  
Logistics and  
Consistent Quality



Compliance with  
OEM and Tier 1  
Requirements



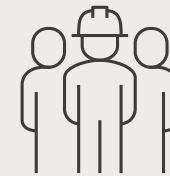
ESD Protection  
Standards  
Compliance



Cleanliness  
Standards for  
Reliability



Sustainable  
Business  
Approach



Professional  
Support at  
Every Stage

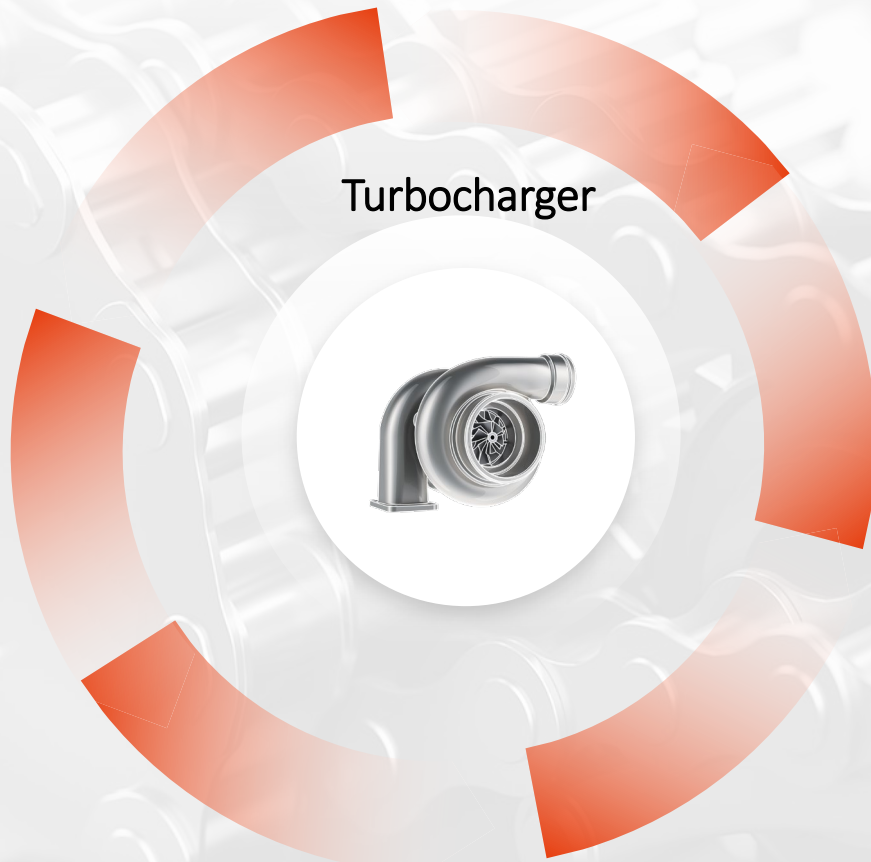


# Turbocharger Protected Applications



# Turbochargers:

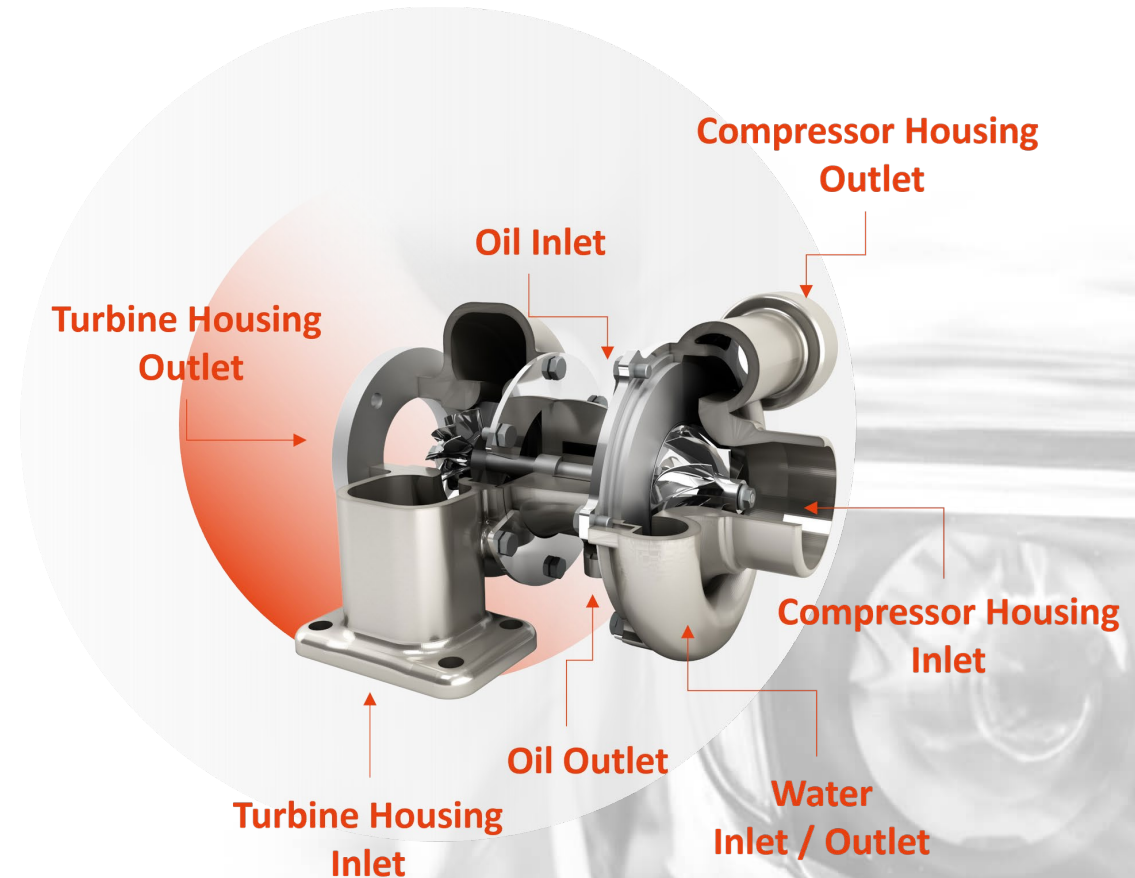
Key to Performance and Efficiency in ICE Vehicles



Requires protection from contaminants and dust to ensure durability and performance.

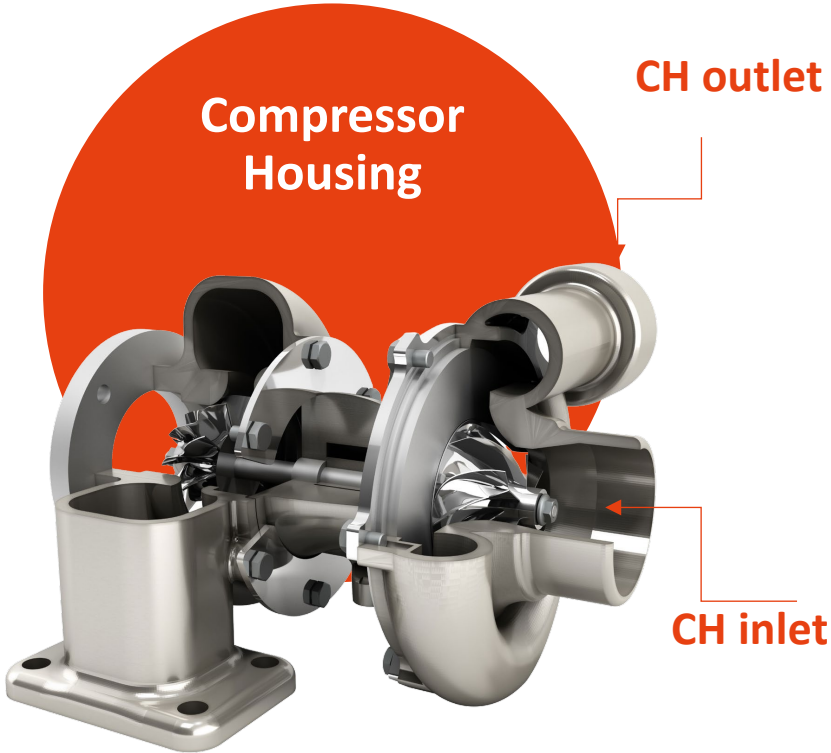
# Ensuring Effective Turbocharger Protection

We develop and produce **protective parts for turbochargers, ensuring their safety** and shielding them from **contamination, dust and mechanical damage**



# Compressor Housing Protection:

Ensuring Effective Turbocharger Performance



NA range



NE range



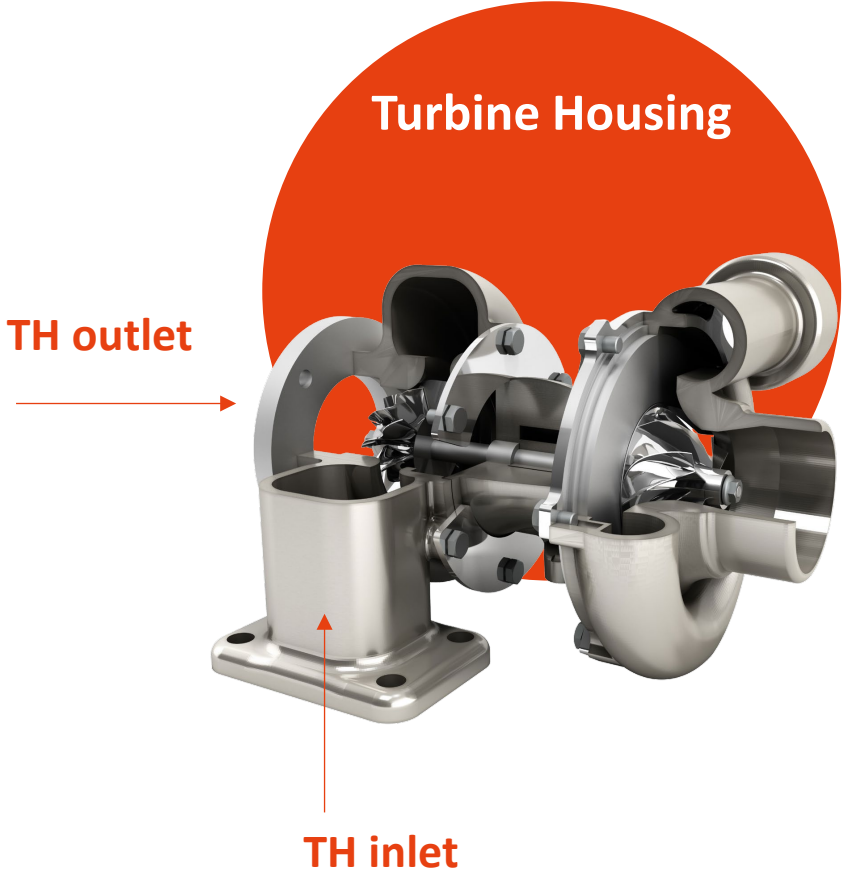
EF range



NS range

# Turbine Housing Protection:

Ensuring Optimal Exhaust Flow and Turbocharger Efficiency



NA range



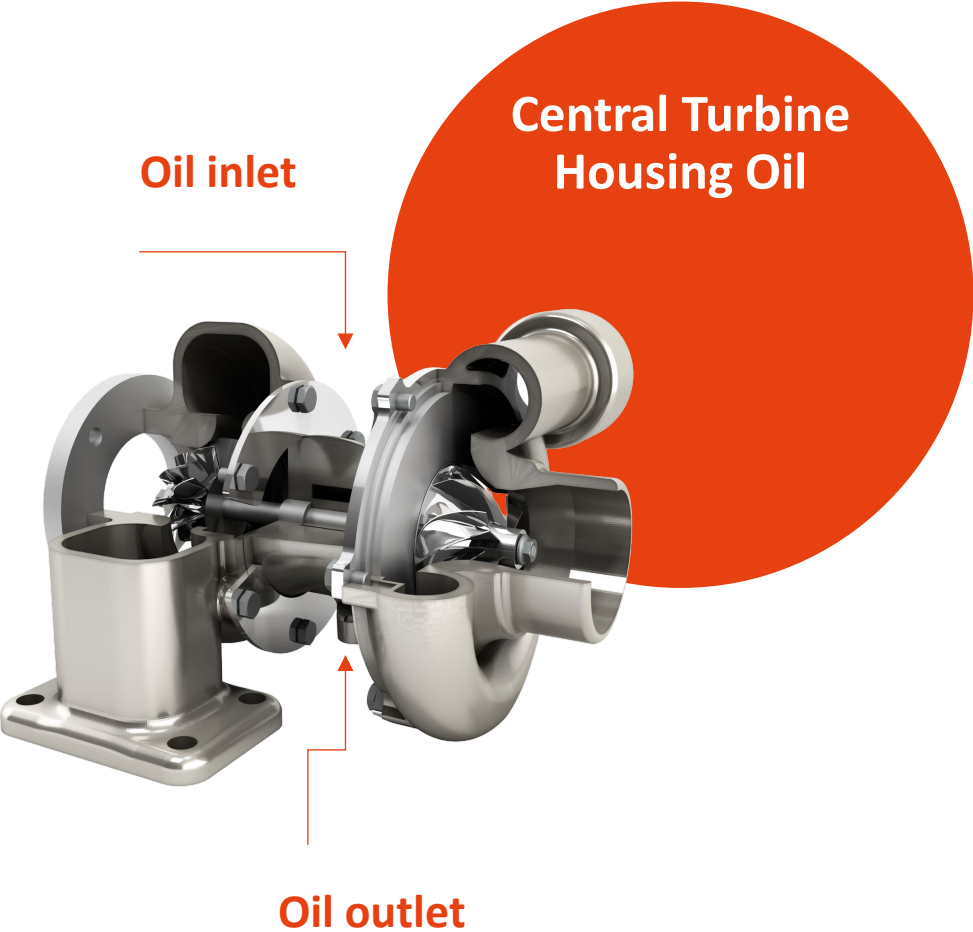
NE range



NS range

# Central Turbine Housing Oil Protection:

Optimizing Turbocharger Performance



BB range



FS range



NS range

# Central Turbine Housing Water Protection:

Enhancing Turbocharger Cooling and Durability



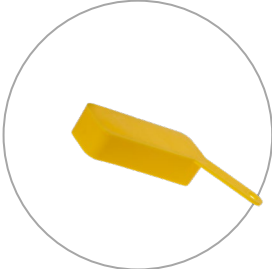
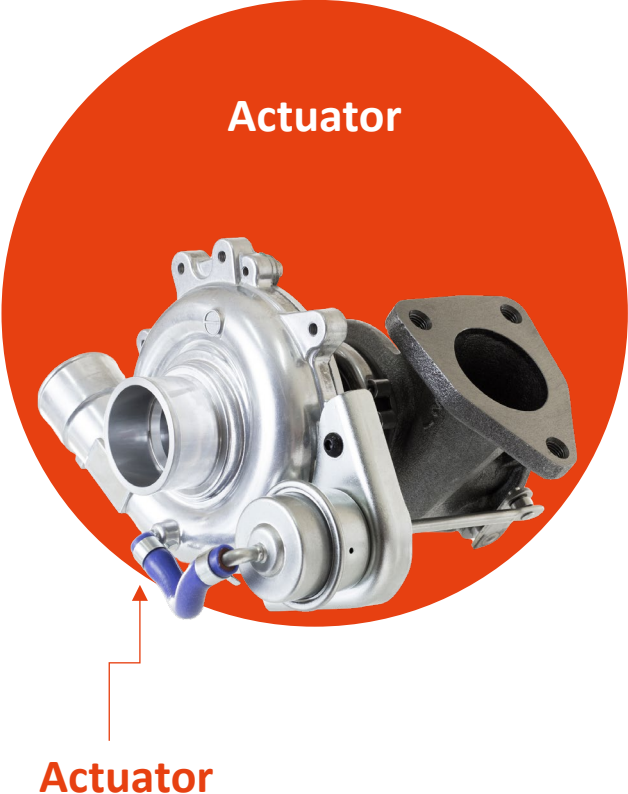
BB range



NS range

# Actuator Protection:

Key to Turbocharger Control and Performance



DL range



GA range



GR range

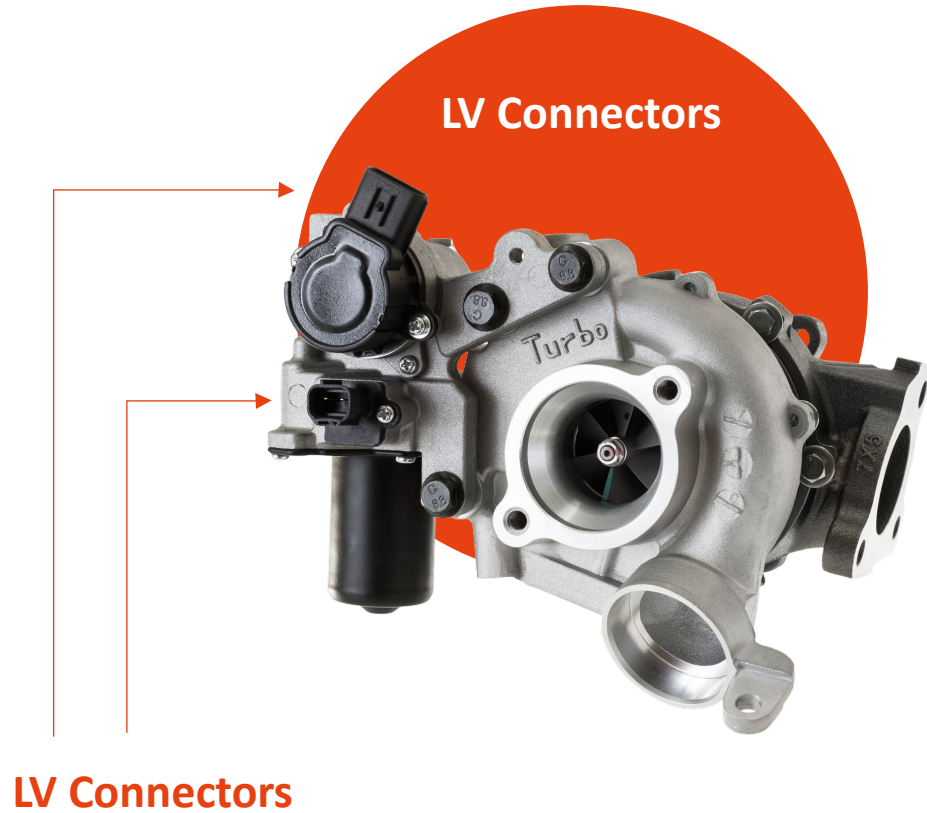


NS range



# Low Voltage Connector Protection:

## Ensuring Reliable Turbocharger Performance





# **Turbocharger Protection Solution for Enhanced Engine Performance**

# FA Solution for Fluid Loss and Leakage Prevention



Efficient solutions to protect turbocharger components and reduce risks



## Fluid Loss & Leakage Concerns

Many OEMs & Tier 1 suppliers face challenges with fluid (fuel, coolant, hydraulics) leakage during processes & transport, leading to:

- **Damage** – Parts, labels, & packaging affected
- **Health & Safety Risks** – Skin, eye, respiration hazards, spills on floors/equipment
- **Contamination** – Increased cleaning costs & need for costly evacuation equipment

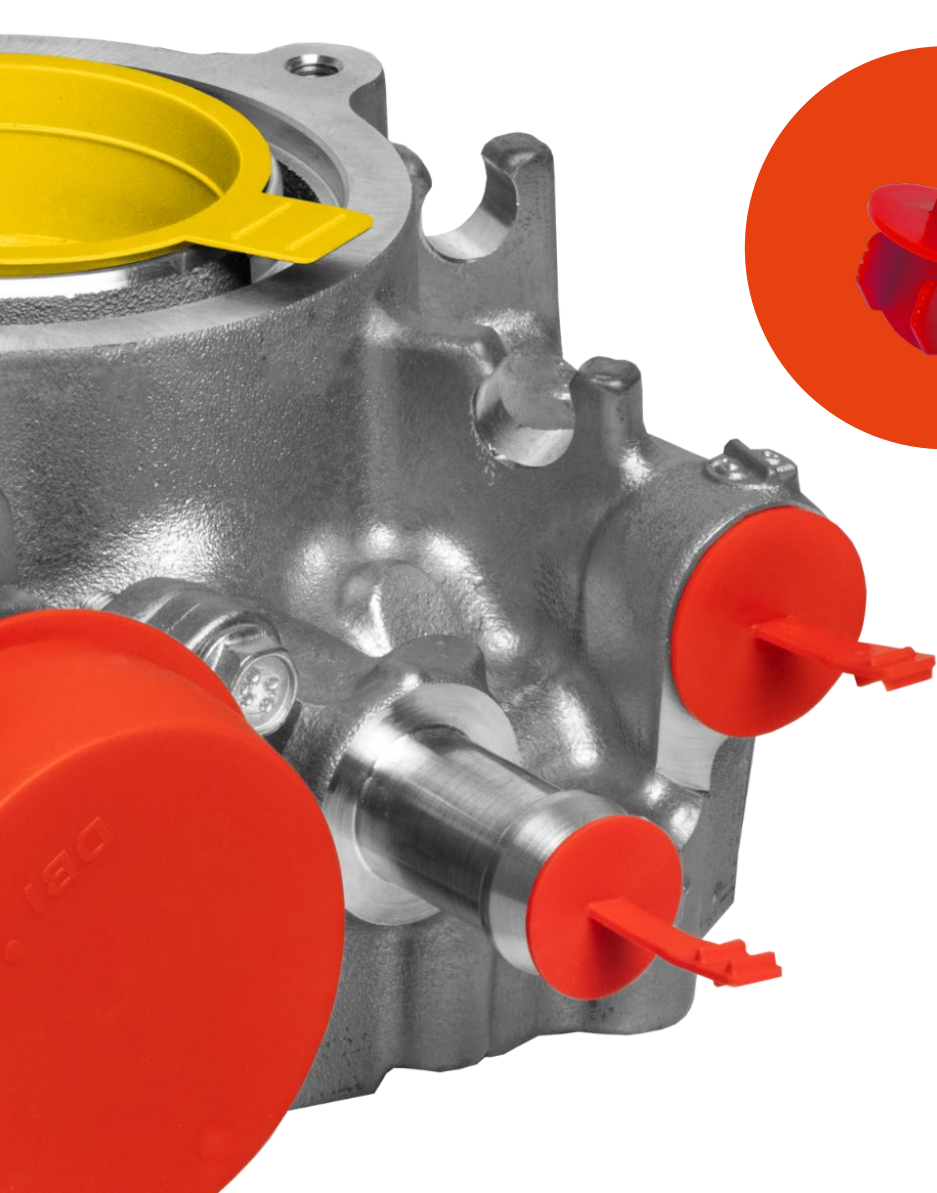
## DBI Solution

- **Innovative Protection** – Caps/plugs with absorbent elements to prevent leakage
- **Safe & Clean Removal** – No fluid loss or operator risk
- **Cleanroom Production** – Meeting the highest cleanliness standards
- **Available in LDPE Recycled** – Eco-friendly material option for sustainability

# BB Solution for Protecting Central Turbine Housing Oil



Efficient solutions to safeguard turbocharger components and ensure system integrity



## Turbocharger Protection Challenges

Many OEMs & Tier 1 suppliers face challenges in protecting the central turbine housing oil during assembly, transport, and storage, leading to:

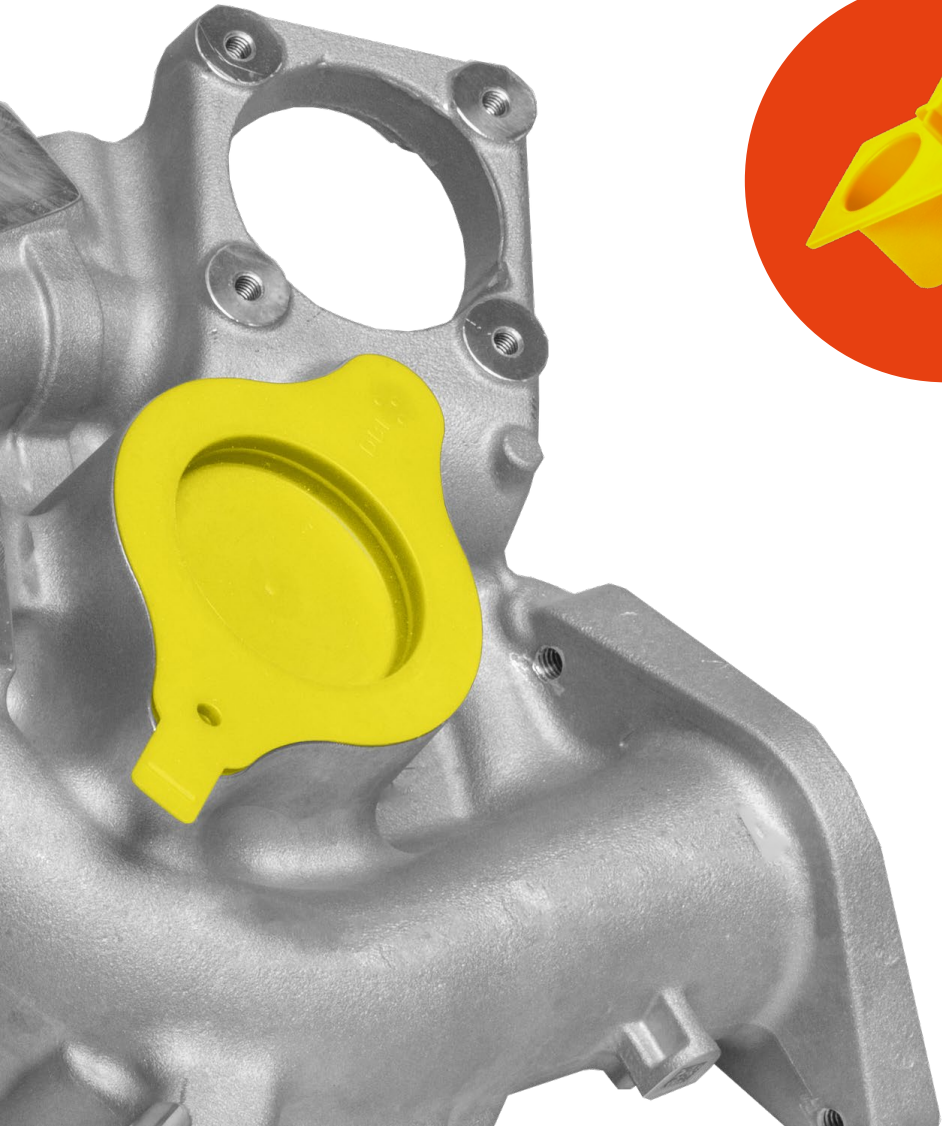
- **Component Contamination** – Exposure to dust, debris, and fluids can impact performance
- **Fluid Leakage** – Oil and coolant loss during handling can cause safety risks and additional cleaning costs
- **Assembly Inefficiencies** – Improper sealing may lead to operational delays and rework

## DBI Solution

- **Innovative Protection** – Plugs with a vertical tab for secure fitting and easy removal
- **Optimized Design** – Flexible material adapts to different turbocharger port sizes,
- **Reliable Sealing** – Prevents fluid leakage and contamination during handling and transport
- **Cleanroom Production** – Ensuring the highest cleanliness standards for sensitive components
- **Available in LDPE Recycled** – Eco-friendly material option for sustainability

# EF Solution for Compressor Housing Protection:

Efficient solution to safeguard turbocharger flanges and ensure system reliability



## Turbocharger Flange Protection Challenges

Many OEMs & Tier 1 suppliers face difficulties in protecting turbocharger flanges during manufacturing, transport, and assembly, leading to:

- **Surface Damage** – Scratches or cracks on flange surfaces can cause sealing and tightness issues
- **Contamination Risks** – Dust, debris, and fluids can compromise turbocharger performance
- **Assembly Challenges** – Unprotected flanges may require additional cleaning and rework, delaying production

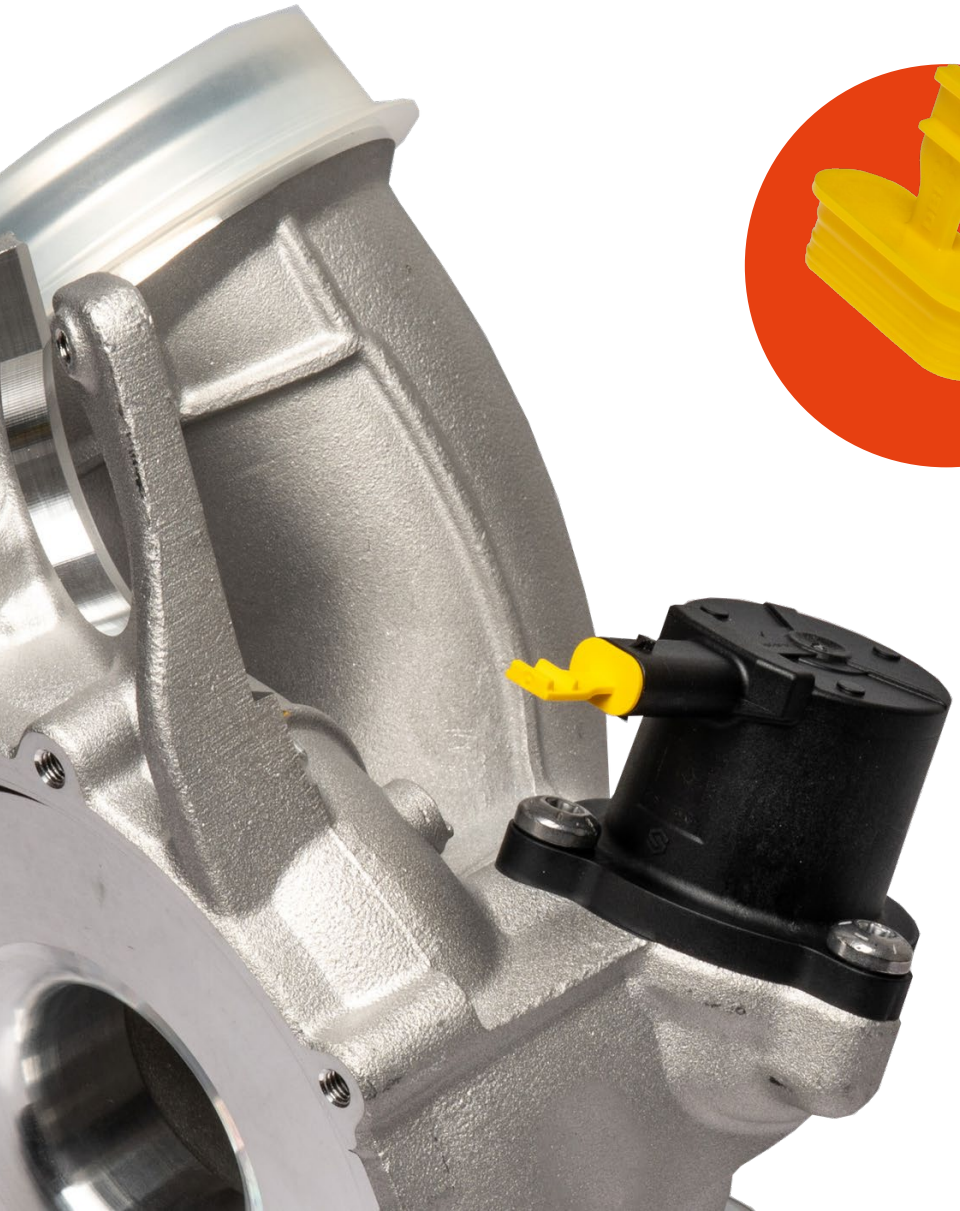
## DBI Solution

- **Comprehensive Protection** – Flange protectors cover both the circuit inlet/outlet and outer flange surface to prevent damage
- **Reliable Sealing** – Ensures a secure fit to maintain turbocharger system integrity
- **Durable & Flexible Material** – Impact-resistant design prevents scratches and cracks
- **Available in LDPE Recycled** – Eco-friendly material option for sustainability

# EL Solution for Low Voltage Connector Protection:



Efficient solution to safeguard LV connectors in turbochargers and ensure reliable performance.



## Low Voltage Protection Challenges

Many OEMs & Tier 1 suppliers struggle to protect LV connectors during manufacturing, transport, and assembly, leading to:

- **Connector Damage** – Impacts and vibrations can cause cracks or deformation.
- **Contamination Risks** – Dust, fluids, and debris can interfere with electrical connections.
- **Assembly Issues** – Unprotected connectors may require extra cleaning and rework, delaying production.

## DBI Solution

- **Tailored Fit** – Designed for Hirschmann, Kostal, TE and more.
- **Reliable Protection** – Shields against damage, dust, liquids, and vibration.
- **Easy Handling** – Ergonomic design for quick plug-in and removal.
- **Available in BIO and Recycled LDPE** – Eco-friendly material option for sustainability

# Other Solutions for Actuator Protection

Efficient solutions to safeguard actuator connectors and fittings in turbochargers.



DL range

- Protects actuator pin connector socket from impurities, ensuring reliable performance.
- Secures pins against breaking or bending, enhancing durability and functionality.
- User-friendly design with a tab hole for easy handling and effortless removal.



GA range

- Secure Fit & Flexibility – Adapts to various tolerances for reliable protection of actuator connectors and fittings in turbochargers.
- Enhanced Durability – Optimized wall thickness and internal ribs with deformation zones provide robust protection.
- Contaminant Prevention – Effectively shields components from dust, debris, and other external contaminants.



GR range

- High-Temperature Resistance – Available in materials that withstand extreme turbocharger operating conditions.
- Versatile Compatibility – Suitable for various actuator pin connectors and control ports across different turbocharger models.
- Enhanced Durability – Robust design protects against mechanical damage, bending, and wear during handling and transportation.

# More Reliable Protection Solutions for Turbocharger Protection



NA range

- Versatile conical design for use as a cap or plug, ensuring multi-dimensional fit.
- Precision protection for turbocharger ports, preventing contamination and damage.
- Breathable membrane option protects while enabling airflow, reducing pressure buildup.



NE range

- Tapered plug with large flange for easy dismounting and surface protection in automotive applications.
- Protects threaded and inspection holes, preventing damage and contamination.
- Available with optional vent hole and in soft or high-temperature-resistant materials



NS range

- Easy removal with built-in handle, designed for convenience in use.
- Multi-dimensional fit as a cap or plug, ideal for sealing hoses, tubes, and fittings.
- Available in various materials and with an optional vent hole to meet diverse application requirements.



# Unique requirements?



DBI offers  
**Customised  
Solutions**  
according to your  
needs.



CHARGING 44 %  
Remaining time 2 minute



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