

# Global presence

COMPLETE COMMERCIAL AND TECHNICAL SUPPORT  
DELIVERED LOCALLY TO OUR PARTNERS WORLDWIDE



# EFFICIENCY & EMISSIONS KEY SYSTEM COMPONENTS



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AUTOMOTIVE  
SYSTEMS

www.nissens.com



**Boost  
your  
business,  
simply.**

**Are you ready for a true revolution? And for the solid boost that it can offer to your spare parts business?**

Indeed, with the new product lines for the engine efficiency & emissions systems, and the revolutionary offering within the engine-charging component, we enable you to boost your business simply, and challenge the well-known picture of the AAM.

Increased efficiency engines and strict emission limits have become a common standard for many diesel- and petrol-powered vehicles today. Efficiency & emissions systems play a crucial role in the combustion process. They define the car's performance; have a significant influence on the vehicle's fuel economy and, due to the emissions controls, help save the environment.

These systems are advanced in terms of design and employ a vast number of sophisticated components, including mechanical, pneumatic and electronics-driven parts. Their proper operation is of crucial importance for the car's overall functionality. Possible malfunctions can instantly affect the vehicle's performance, can cause serious damage to the engine, and can affect the environment as well as immobilize the vehicle.

Solid technical knowledge within the systems, their spare parts quality and availability are some of the key areas for the aftermarket to grow in today, and to offer a valuable alternative to the OE/OES. Especially within the efficiency system, key components like the turbocharger, are characterized by relatively high exchange rates and low market availability; thus, a pressing need for a competitive and reliable aftermarket offering presents itself.

Recognizing the importance of these factors, Nissens has decided to join the battle for a more competitive aftermarket within Engine Efficiency & Emissions systems. And, as whatever we do is performed with a full-scale commitment and with a solid foundation of our aftermarket expertise, we can deliver a well considered and perfectly prepared new, profitable business concept.

**We are proud to invite you to take part in a completely new product group universe, known as Engine Efficiency & Emissions.**

## Efficiency & Emissions Key System Components



### Turbocharger

Boosting power output of the engine

### Turbo Oil Feed Pipes

Reliable turbo lubrication

### Intercooler

Turbo-charged air cooling

### EGR Valve / Module / Cooler

Exhaust gas re-circulation

+ experience the real difference

#### KNOWLEDGE

Our advanced technical support adds to your business ease, and means your customers' satisfaction.

#### QUALITY

Developed to perfection following the highest standards of Genuine Nissens Quality.



#### TROUBLE-FREE

Full compatibility with the vehicle and easy installation. Reliable operation.

#### PERFORMANCE

Excellent engine output, proper exhaust emissions and matching fuel economy.



**All that we do in our entire business concept is Aftermarket-driven.**

Along with the new product lines, we offer you a vast pool of tools that are thoroughly tailored for your business needs, to help you gain commercial success. Review the booklet's last pages to see what we can offer you to further grow your business.



# Turbocharger

Increases engine efficiency and thus its power output



## Role & Operation

Turbine-driven device that forces extra air into the engine's combustion chamber.

The turbo consists of a turbine and a compressor coupled by a common shaft. Operation of the turbo depends on the engine's exhaust gases. The energy of the exhaust gas flow is extracted and enables the turbocharger compressor to pump the air.

The part operation depends on various components across different systems in the vehicle, i.e. exhaust system, air intake/pressure system, lubrication, and engine management with electric parts, and in some cases including the cooling system.



## Possible Designs

- Fixed geometry turbine
- Fixed geometry, wastegate
- Variable geometry turbine
- Multiple turbo systems



## Important to know

- The turbo is a highly sophisticated and fragile component. It operates in extremely demanding and tough conditions: up to 250,000 RPM and 1,100° C of hot exhaust. Improper working conditions and specifically dirt and foreign objects inside the system can easily damage the turbo.
- Turbo functionality relies on various systems in the vehicle. Regular vehicle service, good condition of the engine and proper combustion, as well as properly operating systems such as engine lubrication, air intake system, exhaust system including EGR and DPF/catalyst (if applicable), are of crucial importance for the turbo's proper operation and vitality.
- Lubrication is one of the most critical aspects for turbo operation. It eliminates friction and cools down its key components. Limited oil flow to and/or from the turbo will lead to accelerated wear and tear on the turbo.

## EXPERIENCE THE DIFFERENCE:



### Easy Handling

No fees, no charges, no return of old units. **Complete, Factory New Turbos!**



### Range & Availability

Wide and attractive product range covering the most popular vehicle models.

**+270** turbo models in the range

Very competitive aftermarket price level. High product availability.



### Efficient, Reliable & Safe

Nissens turbos are a completely safe choice for the car's performance, fuel economy and environment, ensuring compatibility with strict EC environmental standards.

Our turbos undergo an advanced series of tests, performed both internally and by independent technological institutes, within:

- Durability and performance
- Field test
- Vehicle exhaust emissions acc. European Commission (EC) norms
- Engine power output
- Vehicle fuel economy



### Technical Support

Well-organized technical support setup with six local technical centers, including technical hotlines available at strategic locations in Europe.

A comprehensive training concept covering the component and understanding of the entire efficiency system (NTC EEF) is available for the wholesalers' network and independent garages worldwide.



### High-Precision Control

Electrically driven actuators for the most optimal engine performance and smooth, reliable turbo flow control. Various models for Euro 5-6 engines equipped with OE-manufactured actuators.



### Easy Installation

Fits the engine layout and the relevant connections smoothly. Fully compatible with vehicle systems.



\* if applied by OE



Relevant gaskets set  
Stretch bolts\*  
Lubricant oil  
Installation guide



### Optimized Design

Component developed according to advanced quality standards – Genuine Nissens Quality, and tested to match OE quality.

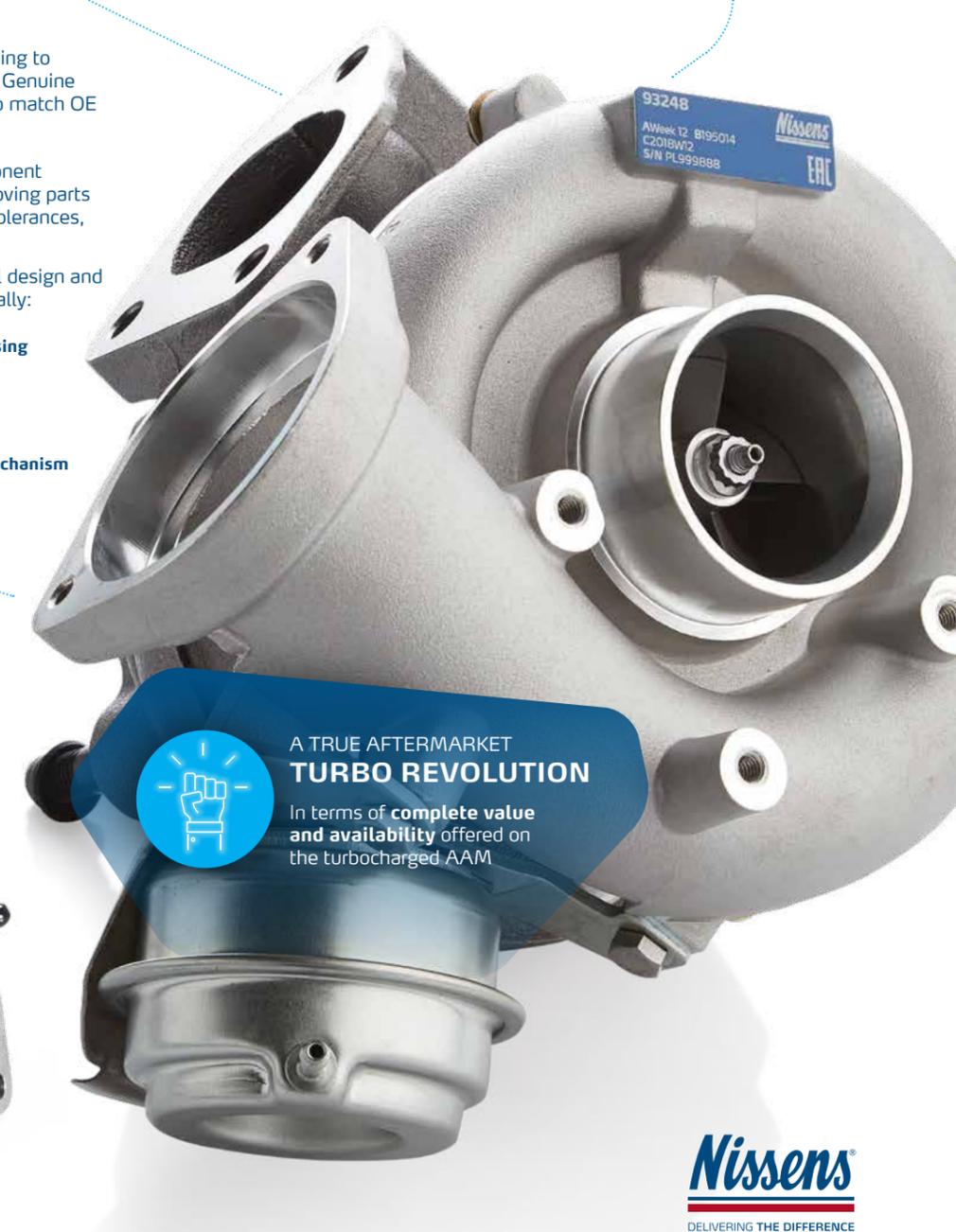
Only the highest-rated component materials applied. Internal moving parts manufactured within proper tolerances, and are precisely calibrated.

Critical components in special design and re-engineering focus, specifically:

- Turbine and Compressor Housing
- Shaft and Turbine Wheel
- Compressor Wheel
- Actuator and Rod End
- Main and Thrust Bearing
- Wastegate/Variable Flow Mechanism
- Electrical Parts

### Long-Life Product

Our comprehensive approach to product development, including the design phase, materials applied and tests performed is thoroughly prepared to ensure a proven, reliable operation of the turbo that matches the lifetime of the vehicle engine.



### A TRUE AFTERMARKET TURBO REVOLUTION

In terms of **complete value and availability** offered on the turbocharged AAM

# Turbo Oil Feed Pipes

## Reliable turbocharger lubrication



### Role & Operation

In turbocharged engines, the oil feed pipe (or line) is connected to the engine lubrication system. Its main function is to secure appropriate lubrication needed for the turbocharger unit and specifically, for its shaft.

The feed pipe supplies engine oil from the engine block directly to the turbo's bearing system thus secures the turbo shaft lubrication and cooling.



### Possible Designs

- Solid metal design (steel / aluminum)
- Solid metal design combined with elastic articulation
- Turbo OFP sharing flange with oil-return pipe



### Important to know

- Appropriate lubrication is the key condition for any turbo to operate and the OFP is considered as an integral part of the system lubricating the turbo.
- Always install a new OFP to avoid critical failures of the newly installed turbo – reuse and cleaning of the OFP is often impossible due to design with many curves.
- In many cases, the OFP's malfunction is the root cause for severe turbo failures. It is an area where oil flow restrictions can easily occur.
- Represents a relatively low cost when replaced compared to the expensive turbocharger/engine failures it may provoke when malfunctioning.

## EXPERIENCE THE DIFFERENCE:



### Proper Turbo Lubrication

Nissens Oil Feed Pipes are designed to ensure appropriate lubrication and cooling of the turbo's shaft - the critical conditions needed for a reliable operation of turbocharger units.



### First-time-right Installation

Experts recommend replacing the oil feed pipes whenever fitting a new turbo. With the oil feed pipes in our range, we support the aftermarket with a holistic service and product selection, enabling first-time-right installation and proper maintenance of advanced components such as the turbocharger.



### Competitive Range

Find all the system's essential parts in one place. Nissens' competitive offering for the Engine Efficiency category includes turbochargers, oil feed pipes, and intercoolers. The oil feed pipes range from Nissens caters for +260 models and covers 99% of vehicle models where Nissens' turbo is available.



### Reliability & Performance

Materials applied and tests performed ensure a proven, reliable operation.

### YOUR Turbo Specialist

We supply the market with a holistic product selection, enabling reliable performance of key automotive systems and first-time-right installation of their critical components. Our OFP offering is developed to match the turbo market needs and the product range offered covers the most popular vehicle applications.

+260

Product range

99%

Vehicle models where Nissens turbo is available



### Easy Installation

Perfect finish and full compatibility with the vehicle and turbo's layout enable a quick and smooth product installation.



### Long-Life Product

Our comprehensive approach to product development, including the design phase, materials applied (galvanized steel), and tests performed- ensures the pipe's long lifespan.



DELIVERING THE DIFFERENCE

# EGR Valves, Modules & Coolers

## Perform the exhaust gas recirculation



### Role & Operation

The exhaust gas recirculation (EGR) system is a system that reduces nitrogen oxide (NOx) emissions in combustion engines.

EGR operates by re-circulating a portion of the engine's exhaust gases, routing them back to the engine intake, thus introducing them to the combustion.

As a result, the oxygen content in the air-fuel charge mixture is reduced. Consequently, the combustion temperature gets lowered and the nitrogen oxide (NOx) gas concentration in the exhaust reduces significantly.



### Available Designs

- Pneumatic
- Solenoid
- Torque Motor
- DC Motor
- Water-cooled EGR system
- Pneumatic Bypass



### Important to know

- EGR valves operate in the extreme temperature range of the exhaust gases. Most common issues with the EGR relate to improper quality of the exhaust gases and related systems.
- An excessive carbon/soot formation that builds up inside the valve is one of the most common causes for EGR valve failures. Excessive oil consumption and thus combustion contamination, malfunction of crankcase ventilation, turbocharger failures, improper fuel and/or improper fuel injection can lead to excessive carbon fouling, soot build up and restricting of the opening/closing function of the valve.
- Specific driving patterns (e.g. only driving short distances) over the long term can also affect the EGR valve's operation.
- A malfunctioning EGR valve will result in improper engine combustion and lead to choking/irregular idling and can typically be spotted by engine faults registered by the ECU.

## EXPERIENCE THE DIFFERENCE:



### Easy Handling

No fees, no charges, no return of old units. **Complete, Factory New EGR Valves, Modules and Coolers!**



### Range & Availability

Comprehensive product range covering the most popular vehicle models within all norms and up to Euro 6. Nissens EGR system spare parts cover valves in pneumatic, solenoid, torque, and DC-motor technologies, valve modules, and coolers. The complete range cater for 140 spare part models covering +780 OE numbers.



### Reliable & Safe

All Nissens EGR components are fully tested within the most critical functions to ensure the product's proper fit and operation.

Nissens EGR components offer a harmonious exhaust gas recirculation process, leading to reliable engine combustion with proper exhaust emissions.

Our comprehensive examination approach includes the following test series:

- Dimensional validation of critical components
- Complete test of all the valve's functions
- Hysteresis measurement on electrically operated EGR valves
- Key electrical functions such as coil/sensor resistance measured and monitored
- Actuator calibration and the actuation linearity characteristic check
- Vibration test
- High-temperature performance test



### Proven Reliability

The highest-grade, industry acknowledged materials and comprehensive product testing is applied to our EGR valves to ensure the component's long, reliable operation in extreme conditions that are typical for harsh environments, such as heat of combustion and exhaust gases flows.



### Robust Design

Component developed according to advanced quality standards – Genuine Nissens Quality, and tested to match OE quality.

Key components made of high nickel percentage alloys, offering superior heat resistance and durability in extreme temperatures.

Critical components in special design and re-engineering focus, specifically:

- Actuator Diaphragm & Housing
- Valve Housing
- Lever and Drive Arms
- Valve Spring
- Valve Poppet, Stem & Bushing
- Position Sensor
- Plastic elements
- Gaskets & Seals

# NISSENS EGR VALVE<sup>+</sup>

### Easy Installation

Fits the engine layout and the relevant connections smoothly. Fully compatible with the vehicle's systems.

**First Fit Product:** Relevant gasket and screws set of OE-matching quality included in the product box.



### Long Lifespan

Nissens EGR coolers are submitted to various durability test series to ensure the product's extended, trouble-free function.



### Proven Thermal Performance

The part's thermal performance is thoroughly examined to simulate the natural working conditions of high temperature and pressure exhaust flow present in the exhaust systems.



PROGRAM AVAILABLE FOR CARS + VANS

**Nissens**  
DELIVERING THE DIFFERENCE

# Intercooler

## Heat exchanger boosting air-charged engines



### Role & Operation

The intercooler significantly improves the combustion process in turbo-charged systems, thus increasing the engine power effect.

The main role of the intercooler is to reduce the temperature of the hot air compressed by the turbocharger, before it reaches the engine's combustion chamber. This has a significant impact on the charge effect, as the cooled air has a much higher density in terms of air molecules per cubic centimeter. This increases the volume of intake air, resulting in a far better engine output.



### Possible Designs

- Plastic tanks, aluminum core
- Full aluminum construction
- Water-cooled charge-air cooler



### Important to know

- A malfunctioning intercooler causes an engine efficiency drop and can lead to serious damage of the turbocharger, exhaust filters (DPF/FAP) or the entire engine.
- Pay attention to symptoms of a defective or leaking intercooler, such as noticeable drop of engine power, increased fuel consumption or unnatural smoke from the exhaust system.
- Intercoolers must always be replaced after the vehicle's turbocharger has failed and whenever a new turbo is installed. Carbonized oil and metal chips from the damaged turbo may clog the intercooler channels, causing the newly installed turbo to fail.

## EXPERIENCE THE DIFFERENCE:



### Range & Availability

Competitive range of intercoolers covering the most popular car, van and truck models. Program of more than 600 items covering 2,060 OE numbers and 80% of the European car park.



### Efficient, Reliable & Safe

Designed and manufactured towards the aftermarket, while thoroughly tested to match OE quality - Nissens intercoolers are submitted to corrosion, vibration, pressure impulse, thermal expansion and thermal performance tests.

Easy-handling packaging and excellent protection against transport damages.

Supreme thermal performance and extended lifespan thanks to a number of special features applied to Nissens intercoolers.



### Excellent Cooling Performance

Tubes equipped with turbulators, ensuring better airflow and larger surface to exchange the heat. Compact fin construction with louvres increasing the heat exchange.



### Mechanical and Thermal Stress Resistance

Plastic tanks designed with special reinforcing inner crossbars and specially strengthened inlets and outlets, to protect the tank against stress caused by high temperatures and mechanical tensions.

Reinforced with at least 30-35% fiberglass. No recycled plastics are used in the mixture. All Nissens' truck intercoolers are custom-welded, ensuring an exceptionally strong and durable welding seam.



### Thermal Stress Resistance

Specially designed side panels with cuts to lower the influence of thermal expansion on the core construction.



### Optimized Design

Specially designed core end plates to minimize influence of the mechanical stress and breakdown.



### Perfect Finish

Connections and mounting points are designed with a complete fit for the vehicle layout, enabling a firm and easy installation.



ENGINE  
EFFICIENCY  
& EMISSIONS



## **Genuine Nissens Quality**

*Developed and tested for  
high performance and durability*



**Nissens**

DELIVERING THE DIFFERENCE

# Effective Business Solutions

No matter which step of your journey with the premium Nissens product program you are at, we are ready to guide you to commercial success.

Take advantage of our wide offer of effective business tools created and based on a century-long experience in the aftermarket.

We're a solid business partner and **the aftermarket-dedicated manufacturer** conforming to the highest standards.



- Genuine Nissens Quality
- REACH regulations
- MVBER Block Exemption Regulation (European GVO)
- RTR Right to Repair
- IATF 16949
- ISO 14001
- CLEPA & FIGIEFA

DELIVERING  
THE DIFFERENCE

FROM THE CHOICE OF THE PREMIUM BRAND

TO YOUR COMMERCIAL SUCCESS

## 01 | PRODUCT SELECTION



### NISSENS' CUSTOMER PORTAL

Intuitive, accurate product selection and purchase in our Customer Portal solution.

- Detailed technical product data, including OE numbers, AAM alternative product numbers, etc.
- High-quality and detailed technical drawings with various useful dimensions
- High-quality color pictures
- Close-up pictures of the electrical connections (if applicable)
- Rotating 360° pictures
- Installation videos (for the most demanding installations and for popular blower models)

[customerportal.nissens.com](http://customerportal.nissens.com)



### MASTER DATA

We share high-quality, complete, up-to-date master data that conforms with OE data.

Wide range of online solutions for data integration.

### KNOWN INDUSTRY PLATFORMS

Nissens' entire product range data is available on the professional cataloguing industry platforms TecDoc/ TecCom, and Nissens is acknowledged as a TecDoc certified data supplier.



### EXCELLENT PACKAGING

Careful protection against transport damage and easy product handling from supply processes to final destination delivery.

- Solid, environmentally friendly cardboard boxes
- Elegant and unified design across all categories
- Easy and unified product identification
- Protective inserts and profiles
- Desiccant bags, protecting the electrical components against moisture
- Tight seals preventing impurities from entering the components



### BUSINESS DEVELOPMENT

Our Business Development Model is a perfect tool to grow your business even more. We offer our partners a valuable review of real sales opportunities per product group for their ongoing development.

- 360-degree outlook on your real potential with a resources priority plan to optimize your sales and profits
- Thorough GAP analysis
- Tailored step-by-step plan for your growth cultivation



### COST-EFFICIENT LOGISTICS

Supreme Product Availability & Efficient Logistical Solutions to develop our Partners' Business

We offer fully tailored logistics solutions such as:

- Supply-chain cost and time optimization
- Highly flexible delivery - orders ranging from one item to entire containers
- Stock management support to ensure high stock rates at season peaks.



### KNOWLEDGE SHARING

**Nissens Training Concept** enables you and your customers to understand the system, and all technical aspects of its operation. Furthermore, technical support and technical marketing materials are available to our customers worldwide.

- Advanced technical training academy including train-the-trainer program, onsite and online trainings, e-learning and a LMS system
- Personal technical support and warranty assessment (available for select markets)
- Technical marketing materials for workshops (installation guides, posters etc.)



### PRODUCT TECHNICAL SUPPORT

Easy-to-use webpage for automotive professionals with a library of more than 100 technical assets such as technical stories, installation guides tips, bulletins, and tools dedicated to technicians.

15+ languages supported, great explanatory pictures and videos, Nissens e-learning modules are included.

[nissens.com/support](http://nissens.com/support)



### NISSENS' VIRTUAL SHOWROOM

Visit our virtual showroom to learn all about the recent innovations, line extensions, and important updates within our key product lines.

Scan the QR code or visit [www.nissens.com/showroom](http://www.nissens.com/showroom)

### MEET US TO LEARN MORE

Our dedicated team of experts looks forward to hearing about your specific business needs and the challenges you may face. Together we will choose the most suitable and effective solution for you to grow further. To arrange a meeting with one of Nissens' specialists, visit [www.nissens.com/meet](http://www.nissens.com/meet)



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