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 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.

+100 turbo models as initial range
+25 turbo models under development.

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 strategical 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.

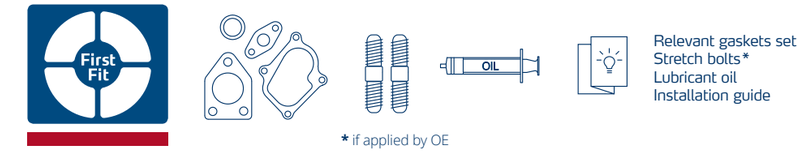
PROGRAM AVAILABLE FOR **CARS + VANS**

NISSENS **TURBO**

Easy Installation

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

First Fit Product:
All that is important for installation is included in the product box.



Relevant gaskets set
Stretch bolts*
Lubricant oil
Installation guide

* if applied by OE

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.

Optimized Design

The overall product quality, including finish, material and testing, matches strict automotive OE standards.

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**

A TRUE AFTERMARKET
TURBO REVOLUTION
In terms of **complete value and availability** offered on the turbocharged IAM

Nissens
DELIVERING **THE DIFFERENCE**