

# INTERCOOLERS

ENGINE  
COOLING



**THE  
WIDEST  
PRODUCT  
RANGE**

- RADIATORS
- INTERCOOLERS**
- CONDENSERS
- COMPRESSORS
- DRYERS
- EVAPORATORS
- OIL COOLERS
- HEATERS
- FANS

**Nissens**<sup>®</sup>

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DELIVERING THE DIFFERENCE

# Why apply intercoolers?

Applying an intercooler in a turbocharged system significantly improves the combustion process, and the outcome is an increased engine power effect. Intercoolers reduce the temperature of the hot air compressed by the turbocharger, before it gets to the engine combustion chamber. This has a distinctive impact on the charge effect as the cooled air has a much higher density in terms of more air molecules per cubic centimeter. The results: a marked increase of air intake and a much better engine output.

## Generally, the use of intercoolers in turbo-charged engines provides a number of benefits:

- Increased engine power and efficiency
- Lower fuel consumption – leading to better economy
- Lower engine emission values, polluting less, and thus respecting the environment more)
- Lower thermal stress on the engine and its equipment

Since the intercooler forms an important part of the turbo-charged system that regulates the engine power effect, the proper operation of this part is very important due to the influence it has on the efficiency and safety of a driving vehicle. Additionally, a damaged or malfunctioning intercooler can lead to serious damage of the turbocharger, the engine or the exhaust filters. (DPF/FAP for diesel engines and catalysts for petrol engines.)

## Symptoms of a defective or leaking intercooler:

- **Noticeable drop of the engine power effect** – caused by improper pressure in the turbo-charge system and improper ratio of oxygen in the fuel/air mixture
- **Increased fuel consumption** – loss of oxygen causes an excessive intake of fuel to the mixture for the combustion process
- **Unnatural smoke from the exhaust system** – provoked by a surplus of the fuel that cannot be combusted and is consequently emitted from the exhaust system

## Frequent causes of intercooler failures and consequences:

- **Frontal accidents and stones/particles thrown from the road** – physical, external damage leading to leaks
- **Turbocharger failure/replacement** – intercooler tubes clogged by oil, particles or damaged turbo parts reducing the internal air flow
- **Improper sealing of the turbo unit (worn or defective gaskets)** – besides clogging, oil blown to the intercooler quickly damages its rubber gaskets, leading to leakages between the core and tanks or to a 'blown tanks' effect
- **Soiled surface** of the intercooler, reducing the air flow and thus the cooling performance of the unit

## **CAUTION: Always replace the intercooler when installing a new turbocharger!**

In case of turbo failure, oil from the charger, as well as the swarf from its damaged parts, are sent through the entire system and may clog the intercooler channels. When a new charger has been installed, the system will again operate with the proper, high pressure, and both the oil and the particles collected in the intercooler risk being instantly blown to the combustion chamber, which may damage the engine.

**For that reason, remember that an intercooler always must be replaced after a turbocharger failure or when installing a new turbo unit.** Before installing a new part, all of the system components must be thoroughly examined to ensure that they are not blocked by oil or swarf residues.

# Why opt for Nissens' intercoolers?

There will be more and more cars equipped with turbo-charged systems and intercoolers. Already today, the majority of turbocharged engines, which means most of the modern diesel and many petrol engines, are equipped with an intercooler. Nissens is prepared to follow the market trends and meet the demands of the market.

## A wide range

The aftermarket demand for intercoolers has increased tremendously, and it will develop even further concurrently with the expansion of the demand for air-conditioning parts, where the car park volume is literally close to reflect the actual size of the market demand.

Nissens' constant objective is to develop an increasingly wide range of all types of vehicle intercoolers. Today, Nissens' range of intercoolers consists of more than 300 products, covering 75% of the European car park, including both cars and utility vehicles, and we are offering intercoolers to the most popular truck applications.

## A supreme availability

Every aftermarket player, from garage to wholesaler, looks for suppliers who can offer a complete market coverage program with supreme availability and stock holding. Nissens' logistics concept - with stock volumes that are optimized according to the market demand - guarantees a unique availability on intercoolers combined with quick deliveries.

## High quality & competitive prices

Nissens' product offer provides a high-quality cooling performance that corresponds 100% to the strict OE standards. In the product development process, we thoroughly submit all intercoolers to corrosion, vibration, pressure impulse, thermal expansion and thermal performance tests. Nissens' intercoolers are available at attractive and competitive market pricing.



## Designed for high performance

Nissens' intercoolers are designed with specially-cut side panels, which can resist the stress caused by high temperatures.



## Cooling performance

Nissens' intercooler cores are made in a solid soldered-aluminium construction which consists of tubes equipped with turbulators and fins with louvers. That ensures an optimal surface to exchange heat from the hot air.



## Durability

Nissens' plastic tanks are reinforced and made of plastic containing at least 30-35% fibre glass. No recycled plastics are used in the mixture. Plastic is applied for Nissens' entire intercooler range.







All Nissens' truck intercoolers are welded, and we apply a special technique, ensuring a very strong welding seam that is more durable than traditionally welded intercoolers.

## Perfect finish







Our intercoolers smoothly fit the mounting points on the vehicle and are recognized as spare parts matching the OE standards 100%. The products' fixed connections, overflow pipes and no fault tolerance as to length, diameter and bending angle ensure the right part dimensions and shape, enabling a firm and easy installation.



Today, Nissens' intercooler range alone is based on 343 complete parts covering more than 800 OE numbers, and dedicated to the market's most popular cars, vans and trucks. The table below shows the market's most popular intercoolers, which are of course available from Nissens.

			O.E.	
Audi A3 (96-)	1.8i Turbo, 1.9 TDI	09/96-	1J0.145.805 D	<b>96847</b>
Audi A6 04 (11-)	2.7-3.0 TDI	11/04-	4F0.145.805 E	<b>96576</b>
Citroën C3 (02-)	1.4 HDI	04/02-	0384.G2	<b>96774</b>
Citroën C4 (04-)	1.6 HDI	11/04-	0384.H5	<b>96718</b>
Dacia / Renault Sandero (08-)	1.5 DCI	05/08-	82 00 047 162	<b>96855</b>
Daf Xf 105 (05-)	410-460-510	10/05-	1677327	<b>97059</b>
Ford Fiesta (01-)	1.4-1.6 TDCI	11/01-	5S6H 9L440 AE	<b>96643</b>
Ford Mondeo (07-)	1.8-2.0-2.2 TDCi	02/07-	1742060	<b>96560</b>
Hyundai Santa Fe (10-)	2.0-2.2 CRDi	06/10-	28271-2F050	<b>96559</b>
Iveco Stralis (02-)	440S54-440S56	02/02-	41214448	<b>97022</b>
Kia Sorento (10-)	2.0-2.2 CRDi	11/09-	282712F000	<b>96537</b>
Mercedes-Benz E-Class W212 (09-)	200-220-250-300 CDI	01/09-	204 500 02 00	<b>96534</b>
Mercedes-Benz W203 (00-)	180K-200K-230K-200-220-270CDI	04/00-	203 500 06 00	<b>96714</b>
Nissan Qashqai (07-)	1.5-2.0 DCI	02/07-	14461-JD50B	<b>96580</b>
Opel Astra J (09-)	2.0i-Turbo-1.7-2.0 CDTi	11/09-	13267647	<b>96557</b>
Opel Astra J (09-)	1.4i-1.6i Turbo	11/09-	13311080	<b>96555</b>
Peugeot 307 (00-)	2.0 HDI	08/00-	0384.F6	<b>96790</b>
Peugeot 308 (09-)	1.6 HDI	03/09-	0384.N9	<b>96514</b>
Renault Clio (05-)	1.5 DCI	06/05-	82 00 471 888	<b>96645</b>
Renault Clio II (01-)	1.5 DCI	04/01-	82 00 685 747	<b>96791</b>
Renault Megane II (02-)	1.5-1.9 DCI	09/02-	8200700172	<b>96728</b>
RVI Magnum DXI (05-)	440-460-480-500	05/05-	50 01 873 716	<b>97058</b>
Scania (04-)	G-P-R-T	08/04-	1817893	<b>97061</b>
Scania R-Series (04-)	G-P-R	08/04-	1747660	<b>97062</b>
Seat Polo (01-)	1.4-1.9 TDI	11/01-	6Q0.145.804 A	<b>96770</b>
Volkswagen Golf VI (08-)	1.6-2.0 TDI	10/08-	1K0.145.803 AS	<b>96568</b>
Volkswagen Golf IV (97-)	1.8i Turbo, 1.9 TDI	10/97-	1J0.145.803 G	<b>96488</b>
Volkswagen Golf V (03-)	1.4-2.0 TFSI-1.9-2.0 TDI	10/03-	1K0.145.803 T	<b>96715</b>
Volkswagen Passat (10-)	2.0 TFSi	09/10-	3AA.145.805 A	<b>96542</b>
Volkswagen Polo (09-)	1.6 TDI	06/09-	6R0.145.805	<b>96566</b>
Volkswagen Touran (03-)	1.9-2.0 TDI	02/03-	1K0145803H	<b>96619</b>
Volkswagen Transporter T5 (03-)	1.9-2.0-2.5 TDI	04/03-	7H0.145.804 B	<b>96683</b>

To access Nissens' entire intercooler range, please consult our on-line catalogues at [www.nissens.com/catalogue](http://www.nissens.com/catalogue) or contact your local sales office to order the printed version of Nissens' comprehensive catalogue.

<b>THE WIDEST PRODUCT RANGE</b>	WIDE MARKET COVERAGE >90%	CARS VANS TRUCKS	ONE-STOP SHOPPING CONCEPT	
	10,000+ PARTS  1 MIO. UNITS DELIVERED YEARLY	UP TO 30 NEW PRODUCTS EACH MONTH		 
SUPREME AVAILABILITY	EXCELLENT CATALOGUES & WEBSHOP	TEC DOC TEC COM		 
				

Since 1921, Nissens has designed and manufactured cooling solutions for the automotive aftermarket. Today, Nissens is one of the biggest European manufacturers and an acknowledged OE and aftermarket supplier of engine cooling and climate parts.

With more than 90% coverage of the European aftermarket, we supply a variety of market segments and cover applications for almost all makes and models of cars, vans and trucks.

In addition to excellent products, we also offer a reliable and efficient business concept enabling you to achieve cooling success on your market. To learn more, please visit our web site, contact your local sales office or one of Nissens' official distributors.

We are an acknowledged supplier to the following automotive and industrial manufacturers:

- **FORD, Europe**
- **PSA, France**
- **Mazda, Europe**
- **Toyota, Europe**
- **Scania**
- **SMC (VW), Denmark**
- **Manitou**
- **Liebherr**
- **Volvo Penta**
- **Atlas Copco**
- **Siemens**
- **...and many others**

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