

Water pump replacement and diagnosis

Part Number: Valeo Water pumps

For Vehicle: All

The Valeo water pump circulates coolant between the engine and radiator to prevent the engine from overheating and it is an essential element of the cooling loop. In recent years a number of factors such as emission regulations and new engine technology has evolved the look, weight and performance of the Valeo water pump. This has resulted in lighter and more compact designs. Despite all these changes they still offer the enhanced engine protection from overheating.

The Water pump is most commonly replaced or inspected during an 'Auxiliary Belt Drive System' (ABDS) failure. It is important before the replacement of a Valeo water pump to understand why the unit has or could incur premature failure as very often it is not the quality of the water pump but external factors imposed on the water pump that has caused the failure. It is important to remember minor leaking from the weep/blow hole can occur in a small quantity after initial fitment due to the water pump technology not performing a completed seal until fully submerged in coolant. This is a feature of the water pump engineering and the bleeding process.

Reasons for premature failure include:

- Poor installation/fitment error
- Contaminated/non compatible coolant
- Incorrect/improper use of sealant or gaskets.
- Over tensioned belt.
- Misaligned belt

In order to prevent the above it is always recommended during the installation of a Valeo water pump that the vehicle manufacturer's procedures are carried out for fitment, the correct coolant is used and the correct sealant and gaskets are applied.

Water pump inspection checks include:

- Rust and corrosion on the pump surface, cavitations'.
- Evidence of a bent or broken shaft
- Bleed marks on the mounting surface and/or around the housing.

See examples in figure 1 and 2.

Fig1 - On the areas of the housing in contact with the coolant, there are orange residues showing the pump has been working with a contaminated liquid.

Fig 2 - The areas of the housing in contact with the coolant shows residues of dirt.

