

MECHANICAL SEAL – HOW DOES IT WORK

The mechanical seal ensures the hydraulic tightness of the water pump. It consists of one part fixed to the pump housing and one part fixed to the bearing shaft. The two sliding rings assembled in these two parts are in relative rotation and the characteristics of their surfaces avoid the coolant to pass through ensuring the tightness of the water pump.

LEAKS OCCOUR ONLY FROM THE DRAINAGE HOLE?

Leaks in a water pump can occur in several places. Apart from the physiological leaks through from the drain hole, leaks can occur from fitting plane of the housing due to an incorrect installation of the water pump.

WHY WATER PUMP MUST BE REPLACED?

The water pump must be replaced because it is a component subject to normal wear and, it has a primary importance for the engine therefore it must always be fully efficient.

WHAT DAMAGES CAN GENERATE THE BREAK OF WATER PUMP?

Damage of the water pump can cause minor damage if intercepted from the start, otherwise considerable damage occur in case of failure of the component, especially on water pumps driven by timing belt.

THE IMPELLER IS ALWAYS IN ROTATION WHEN THE ENGINE IS OPERATING?

Water pumps are driven by belts that take the motion from the crankshaft, so the water pump is always working when the engine works.

WHAT HAPPENS WHEN THE ENGINE IS COLD?

When the engine starts, it doesn't need to be cooled, so the thermostat blocks the circulation through the radiator, preventing the cooling of the liquid.

WHEN I REPLACE THE WATER PUMP ALSO THE GASKET MUST BE REPLACED?

It is necessary to replace the gasket with the change of the water pump to ensure the perfect seal of the system.

WHEN I REPLACE THE WATER PUMP ALSO THE COOLANT MUST BE REPLACED?

The coolant must always be fully replaced in order to prevent the water pumps – and in particular the mechanical seal – from the impurities contamination.

IS IT NECESSARY TO CLEAN THE COOLING SYSTEM AFTER THE WATER PUMP REPLACEMENT?

The cooling system must always be carefully cleaned because all the impurities present in the circuit can damage the new water pump as well as its mechanical seal.

IS IT NECESSARY TO CHANGE BELT TENSIONERS AFTER THE WATER PUMP REPLACEMENT ?

We suggest to replace belt tensioners after the scheduled replacement of the water pump. Incorrect functioning of belt tensioners can generate an excessive belt tension, that means an overload on the water pump bearing with a dramatic reduction of the life time of the bearing and consequently of the water pump.

TOP-UP OF COOLANT COULD AFFECT THE WORKING LIFE OF THE WATER PUMP?

Topping up of fluid can be a symptom of a problem on the cooling circuit of the vehicle and it shouldn't be underestimated. However, top-ups are permitted only with suitable coolant and without mixing up different type of fluids.

WHICH IS THE CORRECT COOLANT TO USE?

We guarantee the compatibility of chemical and physical components of the water pump only with cooling fluids recommended by car-manufacturers.

WATER PUMP BEARINGS, ARE ALL THE SAME?

The bearings of water pumps are chosen depending on the load operation type that will support the water pump during the exercise.
Usually there are the ball-ball bearings for low load and roller-ball for medium to high load applications.

METELLI WATER PUMPS ARE 100% TESTED?

All water pumps produced by Metelli Group are 100% tested on automatic machines that check the perfect seal and certify the correct functioning with the symbol "TESTED".

IS IT NECESSARY TO USE SEALANT IF THE WATER PUMP IS PROVIDED WITH GASKET?

The sealant has never to be used if the gasket is provided together with the water pumps. The sealant has to be used only for water pumps without gasket. In case that the water pumps is supplied with O-Ring, we suggest to use Vaseline or light-grease to facilitate the installation of the water pump.

METELLI WATER PUMPS ARE EQUAL TO O.E.?

Metelli Group water pumps are equivalent in performance and fully interchangeable with O.E. ones. If the O.E. has some reliability problems, Metelli Group could offer different solutions to fix them, being in any case always interchangeable.

WHICH MATERIALS ARE USED FOR IMPELLERS?

Metelli Group impellers can be made with different types of material (steel, cast iron, brass and techno-polymer) all tested and reliable according to the research of optimal performance for that specific application.

HOW TO CHOOSE THE CORRECT WATER PUMP?

The choice of the water pump needs to be done by providing to the shop more information as possible about the vehicle. Often wrong applications are the cause of breakdowns or failures that can be avoided in advance. For some applications there are water pump with reinforced bearings that are not apparently visible except by crossing O.E. codes, so we always recommend to provide to the shop the vehicle registration data as well as the maintenance booklet.

METELLI WATER PUMPS PRODUCTION INCLUDES ALSO INDUSTRIAL VEHICLE AREA?

Currently Metelli Group range includes some codes for the industrial and truck market but there are plans to improve the range development in short time.

DOES METELLI ALSO SUPPLY THE O.E. MARKET?

About the 10% of Metelli Group total turnover is generated by the Original Equipment supply. This is essential to be always active in research and development in order to constantly improve the high standards required by the market.