

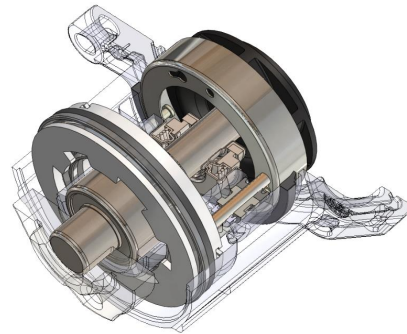
R&D

Flow Control Technologies



What is a PSF water pump?

PSF stands for "**Pneumatic Switched Flow**".
Through a vacuum process, the water pump varies the flow rate according to the requirements of the engine.



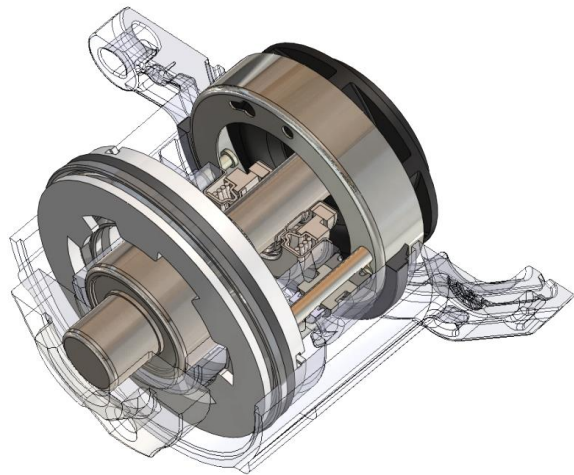
3D model



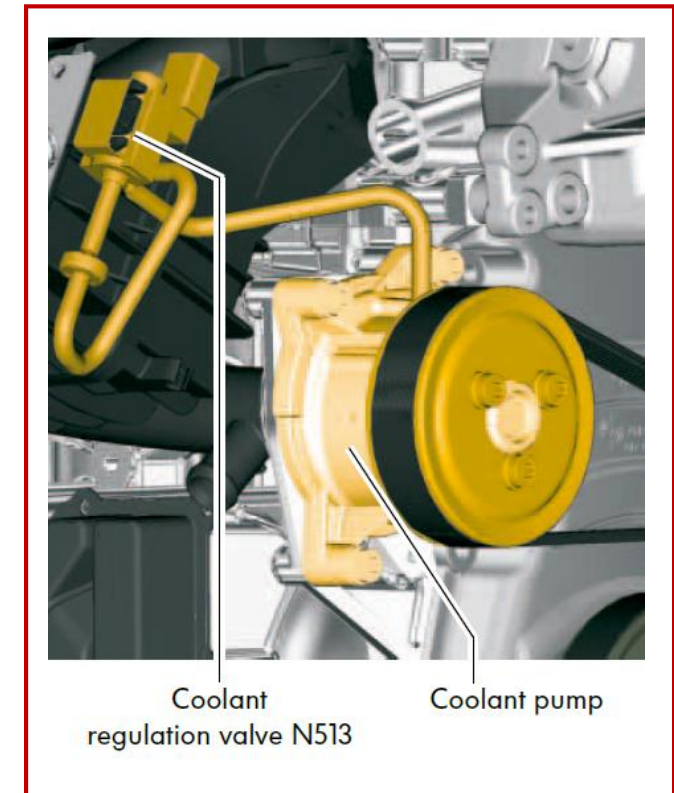
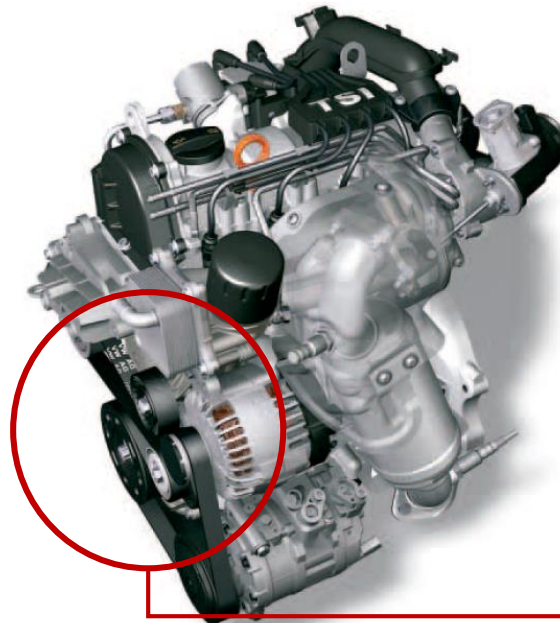
Real prototype

What are the advantages of the PSF water pump?

Airtex R & D Department has designed a water pump with a patented operating system which improves the engine's performance. Our water pump acts on the cooling system only when necessary, helping the engine to be more efficient from the energy point of view, which translates into lower fuel consumption and therefore a significant reduction of polluting emissions into the environment.



Airtex patented system



Coolant regulation valve N513 Coolant pump

How does it work?

The mechanical water pump is not efficient when we start the engine of our vehicle, .

Why?. Because the engine is cold and therefore we do not need to refrigerate it.

In these initial moments (between 5-15 min.) is when the patented Airtex system is working (Fig. 1, "on system"), making it more efficient than a standard mechanical pump.

The Airtex patented system is based on a metal plate which is located between the impeller and the body of the water pump. This metal plate is activated according to the coolant's temperature.

When the temperature reaches 86 ° C, the patented pump is deactivated (red piece descends, Fig. 2), allowing the cooling liquid to circulate along the cooling system.

On system

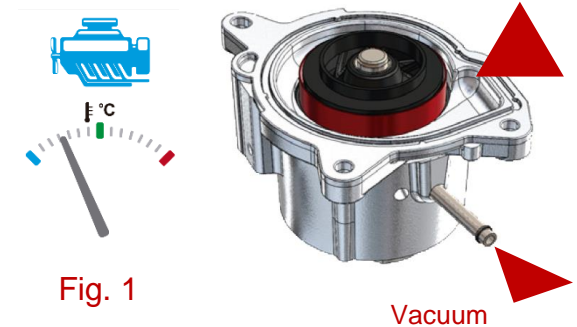


Fig. 1

Off system

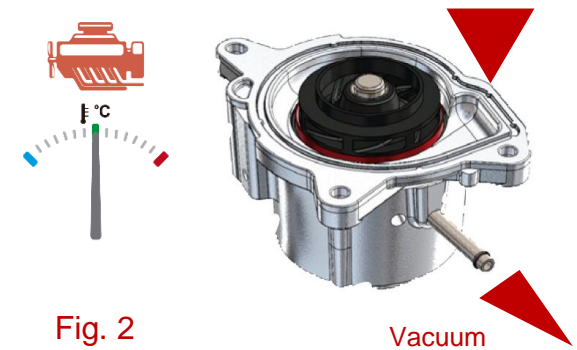


Fig. 2

AIRTEX®