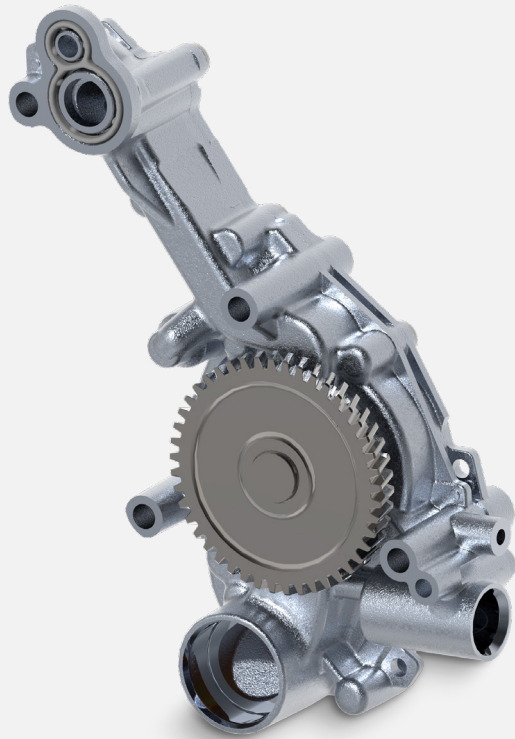


# Variable oil pump for gasoline and diesel engines



## Engine lubrication and piston cooling

A wide range of displacement and pump speed, combinable with vacuum or water pump



### CO<sub>2</sub> reduction up to -50%

Due to the variable oil pump with proportional valve compared to a fix displacement oil pump

### 3-stages optimization

Variable oil pump, oil circuit and specific driving cycle

### One solution for hardware, software and calibration

Allowing to achieve particularly efficient oil circuits and to reduce CO<sub>2</sub> emissions

#### TECHNICAL CHARACTERISTICS

Regulation	Displacement adjustment through excentric stator
Control strategy	Self-regulation, two-pressure level, full-map control
Pressure level	Fully variable from 1 to 5 bar
Drive	Directly by crankshaft or via pulley, gears or chain

- Right amount of oil is always supplied, minimizing the torque absorption in non-critical operating point and reducing fuel consumption and CO<sub>2</sub> emissions
- Multi-vane design principle which enables displacement adjustment, assuring that the oil pressure level can be regulated within a defined pressure range
- Different versions available, such as oil pan design, compact front design and engine cover design