

Integrated oil pan module from MAHLE

Stuttgart, Germany, September 2007 — The automotive supplier MAHLE, headquartered in Stuttgart, Germany, has developed an integrated oil pan module that combines the oil pan, oil filter, and oil cooler in one component. This customized solution optimizes the installation space requirement at minimal weight. MAHLE supplies this product fully machined, assembled, and thoroughly tested.

The oil pan is made of a highly viscous aluminum alloy, which has excellent crash properties. Based on its long-standing casting know-how, MAHLE produces this aluminum die casting component with the least amount of material. As a result, the weight of the module has been reduced by 20 percent. A particular challenge in the casting mold was posed by the complicated ducting in the oil pan.

The sealing surfaces for the oil cooler as well as the core holes for the threads are cast in their finished state. The oil cooler is attached to the oil pan with self-tapping screws. Due to the compact design, the cooler has a very high power density and low pressure losses; in the integrated oil pan module, the cooler is installed upstream of the oil filter.

The integrated oil filter can be optimized to the respective application. Thus, the oil filter is configured in accordance with the volume flow and the temperature — allowing it to accommodate high volume flows and temperatures with minimal pressure loss. The filter cover is designed to resist burst pressures of up to 30 bar.

The MAHLE Group is one of the 30 largest automotive suppliers worldwide. As the leading manufacturer of components and systems for the internal combustion engine and its peripherals, MAHLE is among the top 3 systems suppliers for piston systems, cylinder components, valve train systems, air management systems, and liquid management systems. With more than 40,000 employees in 110 production plants and seven research and development centers, MAHLE generated sales in excess of EUR 4.3 billion (USD 5.8 billion) in 2006.

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