



MAHLE Insider

MAHLE

Electric coolant pumps have a wide range of applications:

- Cooling the engine
- Cooling the drive and battery in hybrid and electric vehicles
- Cooling various auxiliary drives
- Indirect charge air cooling
- Cooling the exhaust gas recirculation
- Transmission cooling



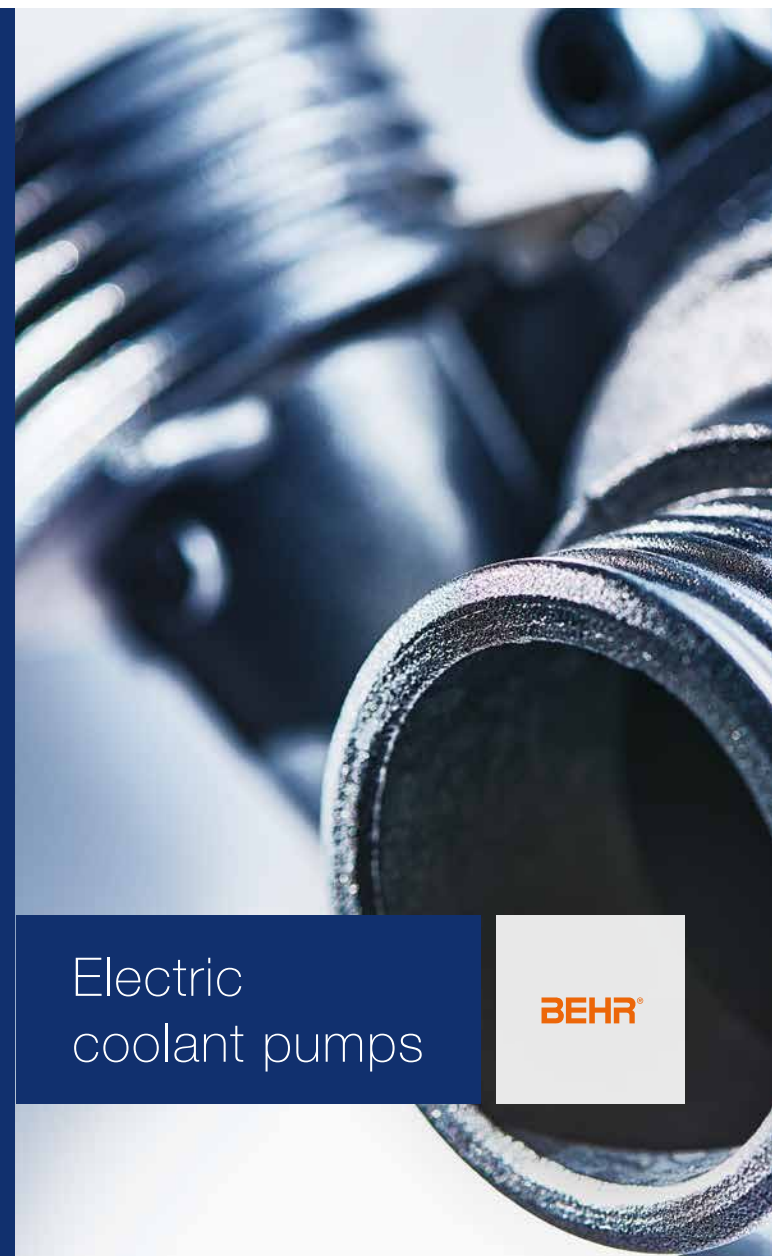
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Electric coolant pumps

BEHR®



Electric coolant pumps

Mechanical coolant pumps, which are driven directly by the engine, continuously deliver coolant while the engine is running, even when there is no need for cooling. In contrast, electric coolant pumps and their integrated electronic control are variably activated according to the required cooling performance. They can be used as main, minor, or circulation pumps. They operate independently of the engine and as required.

During a cold start, an electric coolant pump initially pumps no coolant. This allows the engine to reach its operating temperature faster. Even when the engine is idling or has been turned off, an electric coolant pump can deliver sufficient cooling performance, as it isn't linked to the engine speed. This demand-driven cooling of the engine lowers the power requirement and thus reduces friction losses and fuel consumption. Electric coolant pumps thus help to lower emissions in modern cooling systems.

Another advantage is that electric coolant pumps can be installed on a custom basis, outside the engine. They are relatively light and—thanks to the brushless design—maintenance free. With an operating voltage of 12 to 360 volts, they currently achieve an

output of 15 to 1,000 watts. The coolant pump's electric motor is cooled by coolant. The continuously variable control is achieved by means of a pulse-width-modulated (PWM) signal. In this way, the delivery volume can be controlled independently of the engine speed, according to the actual demand, and the coolant tempera-

ture can be kept constant as required by the system. It's possible to carry out diagnostics on electric coolant pumps by integrating them into the electrical system. Depending on the type of drive (combustion engine, hybrid, electric) and system, one or more pumps can be installed in the vehicle.

MAHLE reference no.	Description	Manufacturer	Model	OE number*
CP 6000 00P	Electric water pump	BMW	5 Series (F10) ActiveHybrid (09/2010–08/2016)	1151758885 7588885
CP 599 000P	Electric water pump	CITROËN	Berlingo panel van (B9) Electric (09/2011–) Berlingo panel van (B9) Electric (01/2013–) Berlingo panel van (B9) Electric (03/2014–)	9807176880 9812011380
CP 599 000P	Electric water pump	PEUGEOT	508 2.0 HDi HYBRID4 AWC (11/2010–) 508 SW 2.0 HDi RXH HYBRID4 (11/2010–) Partner electric panel van (06/2013–) 3008 SUV (0U_) 2.0 HDi HYBRID4	9807176880 9812011380
CP 598 000P	Electric water pump	RENAULT	FLUENCE (L3) Z.E. (02/2012–) KANGOO Z.E. ZOE (BFM) ZOE (06/2012–)	144B03428R 144B03731R 210101348R 210102785R 210103413R 210103417R 210106749R 210109473R 295Y18503R
CP 598 000P	Electric water pump	SMART	Fortwo cabriolet (453) electric drive (11/2016–) Forfour hatchback (453) electric drive (05/2017–) Fortwo coupé (453) electric drive (05/2017–)	A4535000000 A4535000200 A4535000400 A4535060300
CP 602 000P	Electric water pump	TOYOTA	Auris (_E15_) 1.8 Hybrid (ZWE150_) (09/2010–09/2012) Prius (_W3_) 1.8 Hybrid (ZVW3_) (04/2009–) Prius+ (_W4_) 1.8 Hybrid (ZVW4_) (05/2011–) Yaris (_P13_) 1.5 Hybrid (NHP130_) (03/2012–)	161A029015
CP 433 000P	Electric water pump	BMW	BMW 1 Series cabriolet (E88) 125 i (12/2007–10/2013) BMW X3 (E83) X3 2.5 Si (08/2006–08/2008) BMW Z4 Roadster (E85) Z4 2.5 Si (09/2005–08/2008)	11517546994 11517563183 11517586924 11517586925 7 546 994 7 563 183 7 586 925 7586924
CP 601 000P	Electric water pump	BMW	BMW 1 Series (F21) 125 i (03/2012–) BMW 4 Series coupé (F32, F82) 420 i (11/2013–02/2017) BMW 3 Series Gran Turismo (F34) 320 i (11/2012–06/2016)	11517597715 7 597 715

*OE numbers are provided for comparative purposes only.

➤ Did you know? MAHLE is one of the world's leading original equipment manufacturers for engine cooling and automotive air conditioning.