

Electronically Controlled Fan Drives for Light, Medium,  
and Heavy-Duty Trucks & Off-Highway Applications

Product Sheet

Visctronic®



[bwthermal.com](http://bwthermal.com)



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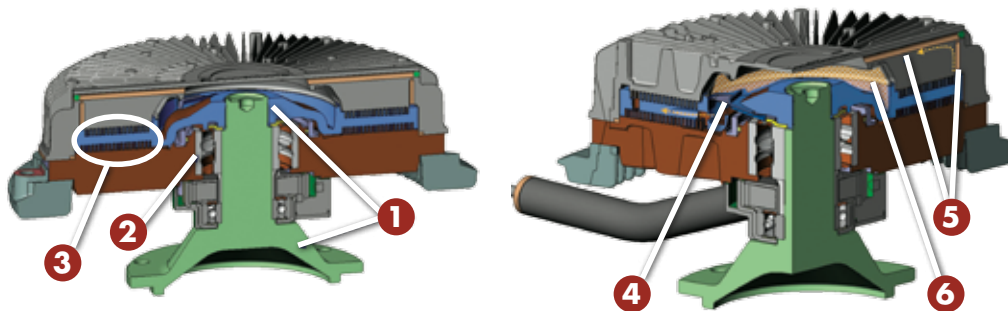
 **BorgWarner**

# Visctronic® Fan Drive

## Visctronic Technology

## Features & Advantages

Visctronic fan drives utilize BorgWarner's proven viscous technology with precise electronic control. The fan drive is controlled by the engine's control module for precise fan speed modulation. Visctronic fan drives provide better engine cooling and improved fuel economy with minimum parasitic loss.



### How it Works:

- 1** Inner clutch disc (blue) driven by the input shaft (green) which is connected to the crankshaft or a remote bearing bracket. Clutch input speed is equal to engine speed or increased by a transmission ratio of bearing bracket.
- 2** Inner clutch disc and outer housings are decoupled by special roller bearing.
- 3** Housings and clutch disc form working chamber. During operation, chamber is filled with varying amount of silicone fluid. Due to differences in fan speed and input speed, silicone fluid is sheared. Shear forces cause torque that drives the fan.
- 4** Amount of silicone fluid in the chamber is controlled by electromagnetically actuated valve.

To empty chamber (disable fan), silicone fluid is pumped back to a silicone reservoir **(6)** over a return channel **(5)**. When fan is off, the silicone fluid rests in the reservoir.

When fan engages, the valve **(4)** is opened to fill chamber. Quick and accurate valve control precisely maintains fan speed. Required activation is calculated by a specifically calibrated software module in the ECU.

### Technical Features and Advantages

- Improved efficiency – fan operates when required and at the appropriate speed – allowing for possible fuel and horsepower savings of up to 6-10%
- Maintenance free – self contained unit, nothing to service or maintain
- Improved temperature control – for extended engine & component life
- High-speed reservoir and patented fluid distribution

