

## Delphi Flow Biased Relief Valves

Delphi Flow Biased Relief Valves provide manufacturers with an advanced solution for in-tank fuel pump pressure regulation in fuel injected engine fuel systems. They provide maximum fuel pressure control to help the engine management system achieve optimal fuel efficiency and reduced emissions.

Delphi Flow Biased Relief Valves are designed to be integrated into the fuel module. They feature all stainless steel construction, rather than elastomers, for excellent durability and reliable operation in all gasoline, diesel, ethanol and bio diesel engine programs.

### ► Benefits

- Maintain even fuel flow pressure for efficient, stable system performance
- Seal at engine-off condition to maintain pressure and provide improved startability
- Wide flow range operation: 24 L/hr to 450 L/hr
- Small package size: 17.60 mm x 18.70 mm

### ► Typical Applications

Delphi Flow Biased Relief Valves are suitable for a wide range of engine applications, including gasoline, diesel, ethanol, and bio diesel. Delphi High Flow Biased Relief Valves can be used in most fuel injected engine programs including:

- Automotive engines
- Non-automotive engines
- Small engines, including motorcycles and motor scooters

### ► Availability

Delphi's Flow Biased Relief Valves are scheduled for production in 2009. Engineering samples are available. Contact Delphi for further information.

### ► Performance Advantages

Delphi Flow Biased Relief Valves offer engine manufacturers a low cost solution to fuel pressure regulation compared to conventional diaphragm technology. They are designed to provide maximum fuel pressure control.

They enable optimal packaging efficiency because of their small size. Their diameter is only 17.60 mm and their overall length is only 18.70 mm.

Delphi Flow Biased Relief Valves feature all stainless steel construction for better corrosion resistance compared to conventional elastomer designs.



Delphi Flow Biased Relief Valve

**▶ The Delphi Advantage**

Building on more than 50 years' experience in fuel handling systems, Delphi is dedicated to the development of high quality, cost effective fuel handling technologies for integration with current and new engine designs. Delphi engineers hold numerous fuel handling trade secrets and more than 50 patents for fuel module and fuel pump design. Delphi engineers understand the complex array of issues involved in achieving efficient, reliable fuel handling performance. Delphi fuel handling technologies can help vehicle manufacturers meet current and increasingly stringent future evaporative emissions requirements. And, Delphi has full capabilities to support fuel handling systems development, validation and production.

Delphi has a long history of creating complete engine management systems and the company has a global network of engineering and manufacturing sites. Only Delphi offers a complete portfolio of engine management system technologies, including:

- Fuel handling systems
- Injection systems
- Ignition systems
- Air and fuel management
- Electronics
- Sensors and actuators
- Valve train systems
- Evaporative emissions systems