



PERFORMANCE ELECTRONICS

Installation Instructions

380 LPH FUEL PUMP

Part Number 50-1005



WARNING:

This installation involves your vehicle's fuel system and is not for the mechanically challenged! If you are not mechanically inclined or do not understand the procedures listed in the instructions please do not attempt the installation. Refer the installation to a reputable mechanic.

CAUTION!

Installation of the AEM Fuel Pump requires the installer to handle gasoline. It is imperative that all work is carried out in a well-ventilated area and a fire extinguisher rated for gasoline fires is within easy reach of all personnel working on the fuel system. Extinguish all open flames, prohibit smoking, and eliminate all sources of static electricity or any other source of ignition **BEFORE** proceeding with installation.

Wear protective clothing, goggles, and gloves rated for gasoline. Contact with gasoline is hazardous to your health; ensure that you are well protected from contact with gasoline.

The AEM Fuel pump is **ONLY** compatible with gasoline. The AEM 380 LPH High Flow Fuel Pump can be used as an in tank pump or an externally mounted pump. Ensure that the wiring to the pump is rated for at least 25 amps and the insulation is rated for automotive use. Use a fused circuit for the pump with a fuse rated at 25 amps.

AEM 380lph High Flow Fuel Pump Kit Contents;

Quantity	Description
1	380lph High Flow Fuel Pump
1	-6 to -8 Check Valve
2	Electrical Ring Terminals
2	Terminal post nuts and lock washers
2	Terminal post boots
1	Instructions

Optional accessories for AEM 380 lph High Flow Fuel Pump

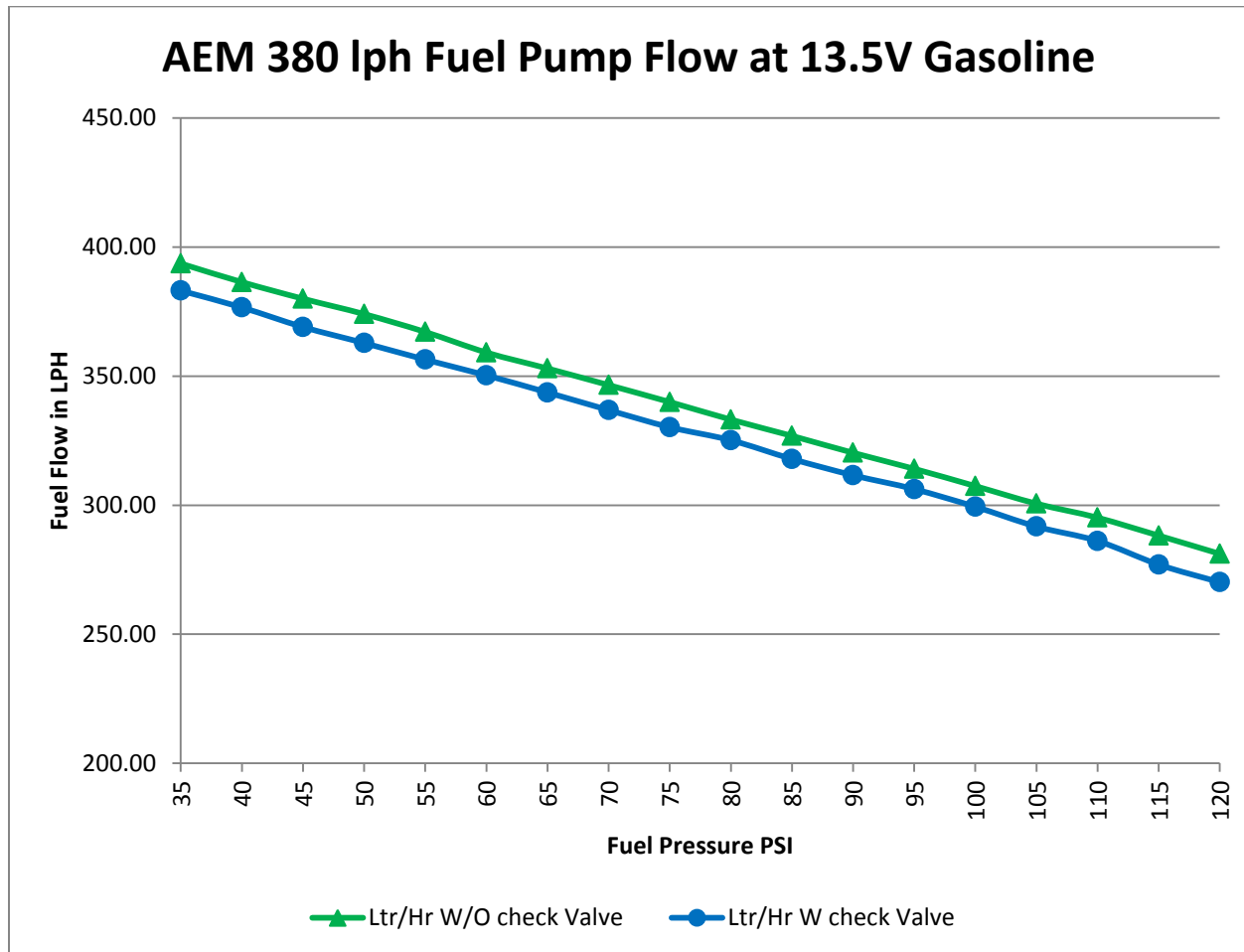
- -10 Inlet port Fitting AEM PN: 50-200-10
- -10 Inlet Filter AEM PN: 50-200-11
- -6 Discharge Fitting AEM PN: 50-200-06
- -6 to -8 adaptor AEM PN: 50-200-86
- -6 to -8 adaptor with check AEM PN: 50-200-08

This fuel pump is intended for electronic fuel injection systems only. It is not suitable for carbureted engines. The AEM 380 lph High Flow Fuel Pump designed to be used externally or as an in tank installation. A pre-filter rated at 100 microns **MUST** be used. Failure to use a suitable pre filter will result in premature failure of the pump. AEM -10 Inlet Filter provides an easy solution for in-tank pump protection.

Pump Flow and Test Information

Every AEM fuel pump is flow tested before it leaves the factory to ensure that it flows nominal 380 LPH @ 43 PSI.* The flow chart presented below is the result of flow testing 20 fuel pumps, eliminating the highest and lowest flowing samples and averaging the balance of the flow data. The data presented is flow in pounds per hour (PPH), and supported power at various fuel pressure levels. This test data is generated using a pre filter with a 100 micron rating, AEM 380lph High Flow Fuel Pump, AEM Universal High Volume Fuel Filter, a McMillan Precision Flow Meter and a -8 return valve. The pump voltage is 13.5V. Note that actual flow will be different at the engine because of losses through the balance of the fuel delivery system. The flow values presented are with the optional -6 discharge fitting. The fuel flow will be lower when the check valve is used.

AEM 380 lph Fuel Pump Flow at 13.5V Gasoline



Fuel Hose and Routing and Installation

IMPROPER FUEL HOSE ROUTING AND INSTALLATION DRAMATICALLY INCREASES THE RISK OF FIRE. BE SURE TO FOLLOW THE FOLLOWING GUIDELINES:

- It is important to ensure that the hoses or lines for the fuel delivery system are clean, not kinked, do not pass hot exhaust components and are terminated correctly. Inadequate fuel delivery often is the cause of calibration errors that may be detrimental to engine life.
- NEVER route fuel hoses through the interior of a car.
- Whenever possible, use a delivery tube to make the connection from the pump discharge to the filter in the front of the car.
- The lines should be rated to withstand at least twice the maximum pressure of the EFI system. In the case of the AEM 380 lph High Flow Pump, **minimum** burst pressure should be no less than 250 PSI
- When routing fuel lines, it is imperative that they are protected from road hazards and the exhaust system heat. The fuel line should NEVER be routed near battery cables. Use clamps to secure AN hose every 15 inches, or 24 inches if a rigid tube is used.
- Use the following table will help you determine which hose size is correct for your application. These sizes are based on a nominal fuel pressure of 43 psi.

Fuel Delivery Hose Sizes Gasoline Powered Engines

Up to 499 HP .344" hose -6AN
500 - 799 HP .437" hose -8 AN
900 – 1100 HP .562" hose -10 AN

Note that this table should be used for typical passenger car applications. For custom applications the hose run length and complexity of the hose routing will affect fuel delivery. To determine the capability of

the fuel delivery system, measure the output of the system by activating the pump with the vehicle operating voltage and measure the volume of fuel delivered in 1 minute. Multiply the delivered value by 60 to get volume/hr.

Electrical Requirement

The supply voltage will affect the fuel delivery of the AEM Fuel Pump. The typical electrical system on modern cars is between 13.2 – 14.2 volts. Although the AEM fuel pump will run at lower voltages the flow will be lower. **Ensure the voltage is 13.5V at the pump.** The current requirement is a FUSED circuit capable of conducting 25 amps. Failure to use a fuse WILL cause a fire hazard in the event the pump fails from contamination. The correct wire size will be determined by the length of wire, the wire type and the resistance of any terminals, splices or solder joints in the electrical or ground supply. The ground is equally important and the preferred ground is to route the ground wire to a star ground source that is directly attached to the battery negative post. The **minimum wire gauge** is 14ga. TXL wire. Twelve feet (12') of TOTAL CIRCUIT length (power & ground) 12 ga. is required and Twenty feet (20') 10 ga. is required.

Before wiring the pump to the electrical system make sure the polarity is correct. Connecting the pump with reverse polarity will damage the pump and will void the warranty. The pump has markings in the discharge end cap at the fitting boss to indicate polarity, Red is positive (+) and Blue is negative (-).

Post installation inspection

BEFORE starting the engine, ensure there are no leaks at any point in the fuel system. This pump is capable of generating more than 125 PSI fuel pressure so excellent fuel system integrity is required. Check every connection point visually and mechanically. While the system is powered up, move fuel hoses to ensure all fittings are seated correctly.