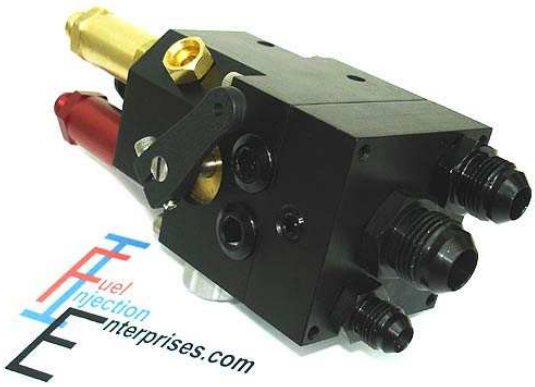


The FIE Super Metering Valve

The new FIE metering valve is packed with features. Probably the most versatile unit available anywhere, it will easily mount to stack or hat setups. This hard anodized, billet aluminum and stainless steel component can be configured in a variety of different ways to meet your needs. Easily serviceable, easily adjustable, and made up of only the highest quality components, made in the USA.

Most other metering valves adjust the idle mixture using a hex link tied to the throttle linkage. This can be troublesome to adjust quickly and is prone to changing slightly as the motor heats up and cools down. The FIE metering valve utilizes a separate idle circuit controlled by a needle-valve. It can be quickly tweaked at the starting line (no tools required) or can be set and secured with a locknut to prevent tampering. A needle shaft seal rated at 1000 PSI not only insures a leak-proof setup, but also provides enough friction so that the adjustment stays put even if not locked.

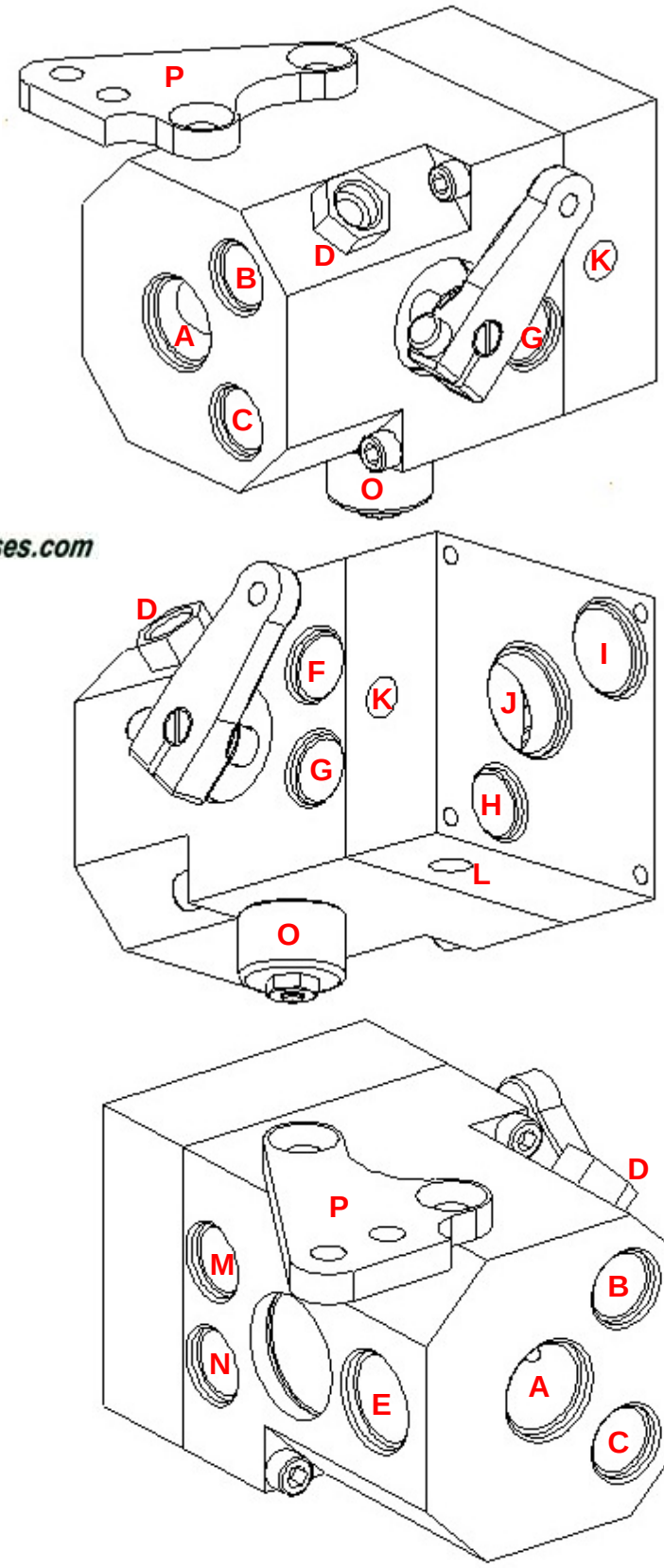
The needle-valve controlled idle circuit means the main rotor has NO idle notch at all and the main passage through the valve is completely closed at idle. This means idle fuel pressure can be boosted and used as a starting line tuning aid. Leave from an idle like never before!

The main portion of this metering valve is the same for everybody. The bottom/back plate however comes in three flavors to suit your needs; Hat style, Stack style (one set of nozzles), Stack style (idle nozzles & down nozzles). The Hat setup includes a mounting kit with linkage mods to space the metering valve out and slightly down from the stock location. Everything is included to bolt this right on to your injector hat. No modifications to the hat are required and you don't even need to remove the hat to do it! The stack setup is easily drilled and tapped to fit whatever bolt pattern happens to be in your injector casting.

A "warm-up port" allows the motor to be warmed up on methanol or gasoline. This is an easy interface to a pressurized or gravity fed warm-up tank that is introduced AFTER the needle valve so that your starting line idle adjustment (using the needle valve) is not effected. An integral check ball arrangement prevents back-flow and insures that the nitro percentage in the main tank is not contaminated with weak juice during the warm-up.

Features:

- A separate idle circuit with needle valve for quick, precise, stable adjustment.
- Accepts screw-in Enderle style main pills if desired and includes corresponding -6AN "idle check" port.
- Dedicated -6AN port to be utilized for either a "secondary" bypass or high pressure "pump saver" relief.
- Port for monitoring fuel pressure on the nozzle side of the rotor.
- Easily serviceable seals do not require completely removing the metering valve from the motor.
- Stainless steel metering rotor and needle valve for corrosion resistance and long life.
- Idle circuit and secondary/pump relief are both closed off when the throttle is opened.
- One -8 and one -10 outlet (one for hat nozzles and one for port nozzles)
- The idle circuit can exit the valve separately to another set of nozzles, dribblers, etc. or integrate with the main output. This feature is enabled/disabled by simply rotating the back plate 90 degrees.
- Internal flow path is straight-through, larger and even less restrictive than a K-style metering valve (5/8" vs. 1/2").



FIE Metering Valve Feature Map

A - Inlet for a hat mounted installation. -8 port, thru-hole: -10 line size.

B - Idle check valve when a bypass pill is present in position **D**. Fuel pressure is present at this port at all times metered through **D**. Can also be used for a high-speed bypass or a second pump saver if pill is omitted from **D**.

C - Pump saver or secondary bypass port. Fuel pressure is only present here when the throttle is CLOSED.

D - Bypass pill port. Threaded 7/16”-20 for standard screw-in bypass pills.

E - Inlet for a vertical installation. -8 port normally plugged for a hat installation.

F - Auxiliary -6 port behind the spool for additional nozzles, bypasses, or sensors behind the valve.

G - Auxiliary -6 port behind the spool for additional nozzles, bypasses, or sensors behind the valve.

H - Optional isolated idle circuit, -6 outlet. Becomes inactive when throttle is opened. Needle valve metered idle fuel feeds dedicated nozzles in the configuration shown. Outlet ports **I** and **J** see no fuel at idle and all fuel metered by the onboard needle valve exits through this port which is only active in the idle position.

If it is desired that the idle circuit should be joined with the hat and port outlet for a “K-valve” type configuration, the rear portion of the valve is removed, rotated 90º counter-clockwise (as depicted in the center illustration) and replaced. This joins the needle valve idle circuit with ports **I** and **J** and port **H** becomes disabled.

I - Outlet -8 port for hat or port nozzles.

J - Outlet -10 port for hat or port nozzles.

K - Start-up/warm-up 1/8” NPT port. Joins directly to the rear cavity to feed ports **I** and **J** directly in a “K-valve” type configuration.

L - Start-up/warm-up 1/8” NPT port feeds port **H** directly to supply alternate fuel to dedicated idle nozzles. This circuit contains an internal spring-loaded check ball and seat to prevent back-flowing alternate warm-up fuel to the tank. Warm-up fuel can only go into the motor.

M - Auxiliary -6 port behind the spool for additional nozzles, bypasses, or sensors behind the valve.

N - Auxiliary -6 port behind the spool for additional nozzles, bypasses, or sensors behind the valve.

O - Idle mixture control knob. This allows adjustment of the built-in stainless needle valve assembly and facilitates reference marks for quick tweaks at the starting line. Can be run with a large indexable aluminum knob or with no knob and a locking jam nut.

P - Hat mounting bracket. Standard spacing and screw size allows installation to injector hat in place of a K-valve (just remove the studs). Utilizes flat-head cap screws for a rigid, non-flexing mount.