

Description

The Triplex metering fuel pump has been developed by Currawong to provide regulated high pressure fuel delivery for heavy fuel and gasoline engines. Its unique three-piston design combined with a tightly integrated control system provides very precise regulation of fuel delivery across a wide pressure range.

The pump is at the heart of Currawong's heavy fuel capability, providing precisely metered, high pressure fuel flow that is able to be finely atomized using Currawong's unique atomization technology.

The pump incorporates in-built high frequency precision metering of fuel flow without having to rely on separate meters and other hardware. This feature can be used throughout system development, and is particularly useful when used with a dynamometer as Brake Specific Fuel Consumption can be easily calculated.

During flight testing the internal metering can be used to calibrate the less precise fuel flow measurement built into the engine control unit (ECU). If this feature is retained in production systems, it results in a step increase in system health monitoring by providing a high accuracy reading of fuel flow that can assist in determining the state of tune of the engine, as well as how much fuel remains in the tank.

This device can therefore be an integral part of in-flight data information gathering and diagnosis systems.

Specifications

Operating Voltage:	8V - 16V
Operating Temperature:	-20°C - +60°C
Max Flow Rate (@12V):	425g/min*
Fuel Pressure:	0Bar - 8Bar*
Pump Weight:	250g
Major Dimensions:	81 x 61 x 54mm

**Pressure and flow-rate performance depends on pump configuration*

Features

- Self priming
- Integrated electronics provide pressure regulation and flow metering
- Triple piston design provides smooth fuel delivery
- Extremely low power consumption
- High pressure fuel delivery
- Fully documented interface (CAN and RS232)
- Protection against over-pressure of fuel system
- High resolution fuel delivery information
- Able to be deployed as a flow metering pump with < 1% error

Options

The Triplex pump can be fitted with a range of motor/gearhead combinations to provide desired flow rate and pressure performance.

In conjunction with the Currawong flat tube damper, the triplex pump provides high pressure fuel straight to the injector at flow rates of up to 400g/min.

Contact Currawong for information on the available triplex pump configurations, and find a solution suited to your fuel delivery requirements.

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Example Performance

Figure 1 shows a performance curve for a Triplex pump fitted with a gear head that provides low flow, high pressure fuel delivery (variant CE822-02).

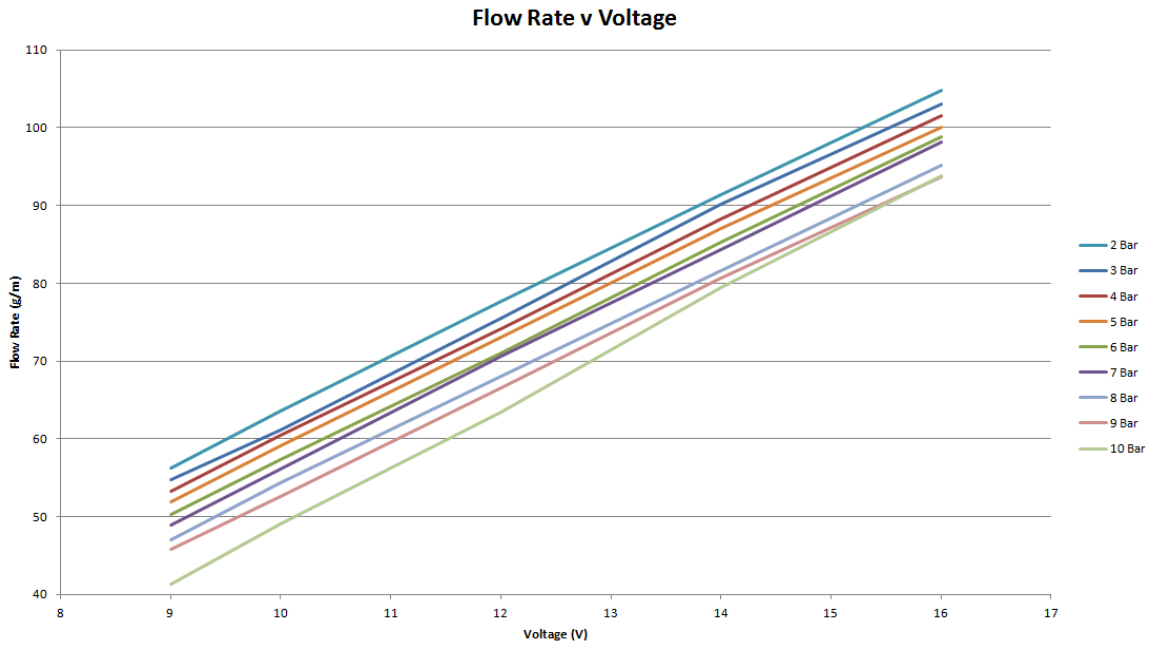


Figure 1 - Triplex Pump Flow Rate

Figure 2 demonstrates the very low power consumption of the Triplex pump.

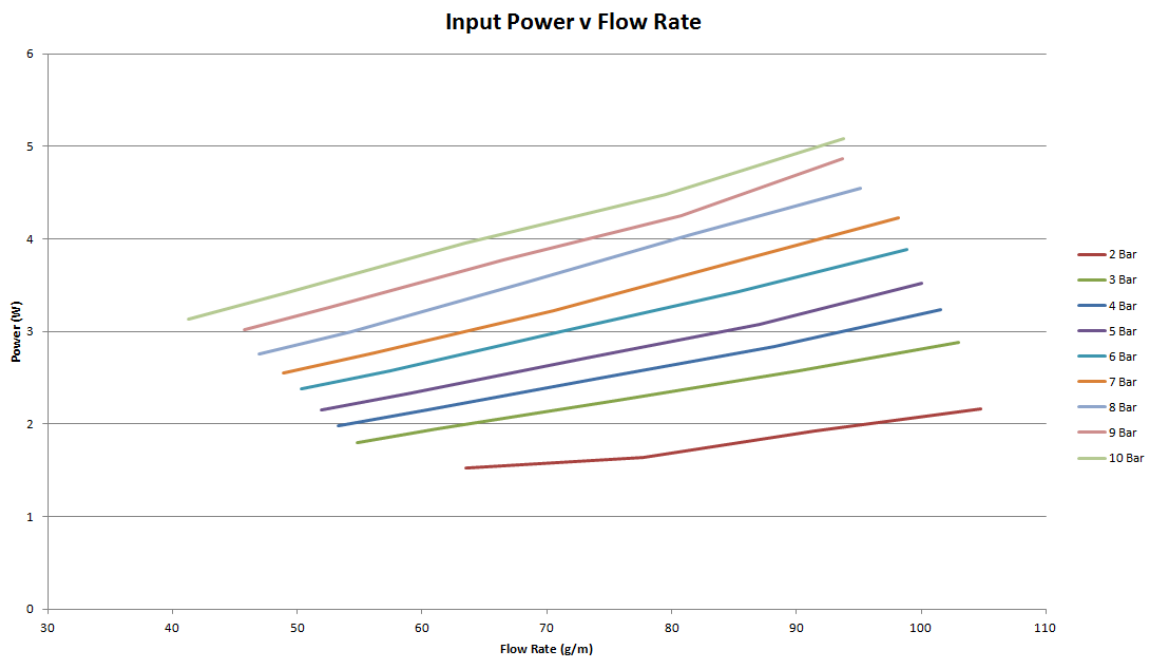


Figure 2 - Triplex Pump Power