

JASC ships first Pulse Width Modulated Fuel Control Valve destined for use on DARPA's Micro UAV's.

JASC is pleased to announce the completion and shipment of our Pulse Width Modulated (PWM) Fuel Control Valve. This valve is used to meter fuel to small compression ignition engines. Target applications for this valve include the engines used to power the developing field micro UAV/drone aircraft for the U.S. armed forces. These drones weigh about five pounds, measure about nine inches in diameter and are designed to fit inside a soldier's backpack. These drones are intended to be part of an autonomous aircraft and ground vehicle network that will perform a wide range of military missions. The Micro UAV's can carry small cameras and may be used to fly "over the next hill" to perform reconnaissance for other robotic or manned units. ¹

The PWM Fuel Control Valve meters fuel flow and provides positive fuel shutoff for either diesel or JP-8 by using a modest fuel tank head pressure as the motive force. The PWM Fuel Control Valve is operated by a PWM signal from an electronic fuel management computer. The fuel-metering schedule is a function of duty cycle at a fixed frequency, as commanded by the electronic fuel management computer. This design provides for a low cost, small and lightweight fuel metering valve for small engines and is based upon existing JASC technology for "clapper type" fast-response solenoid valves.

The Pulse Width Modulated Fuel Control Valve is another example that demonstrates JASC's capabilities in designing innovative flow control devices to fit a wide range of applications. For a detailed list of the products that JASC currently manufactures, please visit us on the web at:

<http://www.jasc-controls.com/products.htm>.

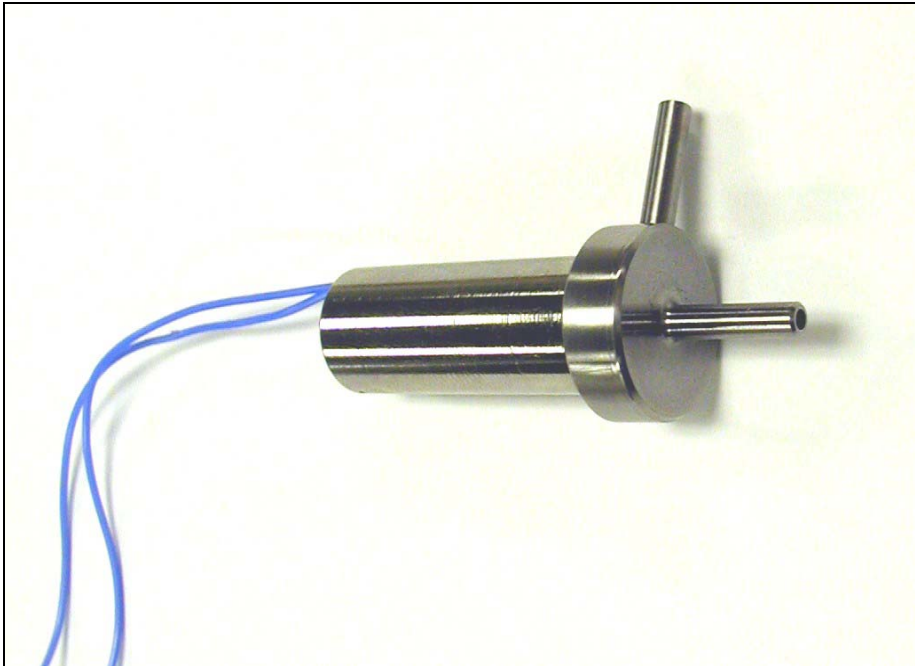
PWM Fuel Control Valve operating characteristics:

- **Input Signal:** 5.0 ± .5 VDC @ 30 HZ
- **Duty Cycle:** 12% to 75% range
- **Max. Current:** .50 amps.
- **Flow:** 0.2 to 2.0 PPH @ 10 inches of head pressure
- **Seat Leakage:** Zero
- **Temp. Range:** -65 to +350 °F
- **Dry Weight:** 2.0 oz. Max.
- **Dimensions:** 0.500" Φ X 1.500" length max.

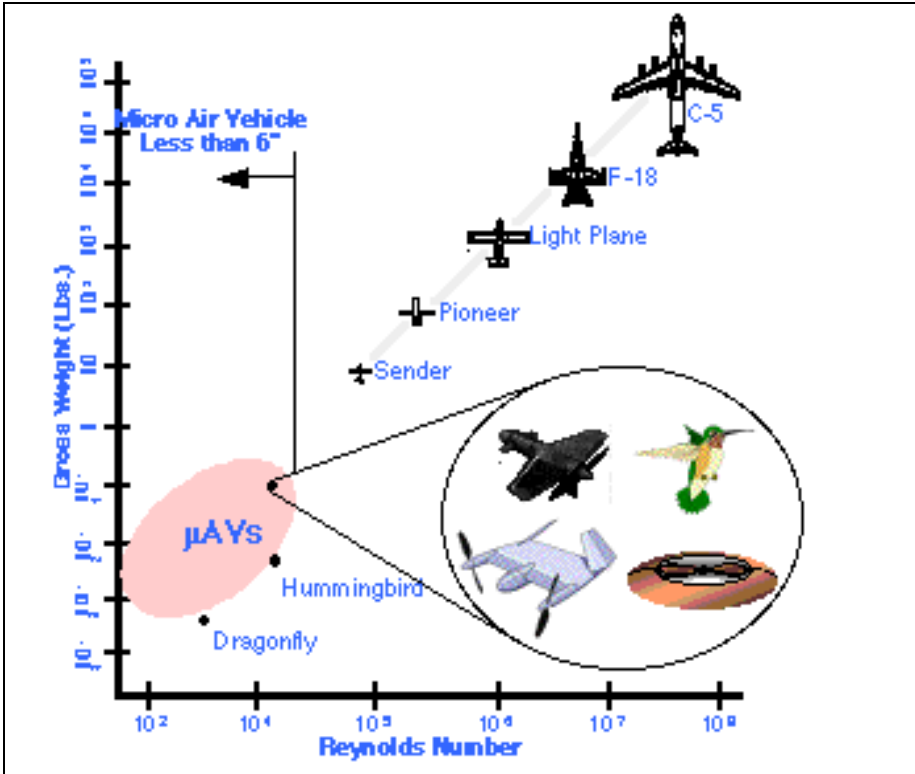
Hyperlink to DARPA MAV's and UAV's:

[Micro Air Vehicles - Toward a New Dimension in Flight](#)

¹ Popular Science Magazine, June 2003.



PWM Fuel Metering Valve



MAV Flight Regime Compared to Existing Flight Vehicles

Source: http://www.darpa.mil/tto/mav/mav_auvsi.html (Figure 1: The Micro Air Vehicle Flight Regime Compared to Existing Flight Vehicles)