



Description

This is a lightweight and compact fuel injector and has been especially designed by Currawong for operation of small fuel injected engines. It is particularly suited for use in the UAV industry.

It features customizable flow rates obtained by Currawong proprietary processes.

Currawong can supply a range of fuel injectors specially configured to meet the customer's engine requirements. These injectors are one component of a comprehensive electronic fuel injection program.



Specifications

Flow rate: The injector can be configured to suit engine capacities from 10cc and upwards

Director plate: Hole diameters and patterns can be customized to suit user requirements

Fuel line connector: Barbed fitting to suit 4mm polyurethane tube

Harness sleeving: Robust polyurethane tube, 4 mm diameter

Harness connector: Mil-spec micro miniature circular connector, 5-pin. Pin 1 is earth, pin 3 is the drive signal

Resistance of solenoid coil: 12.5 ohms

Overall length: 53mm (2 inches)

Diameter of O-Ring: 14.7 mm

Mounting hole diameter: 14.3 mm (9/16")

Weight (with fittings): 33 grams (1.2 ounce)

Distributed in the US & Canada by:



Configuration Options

Flow Rates Available

Required fuel flow rates are obtained by varying the number and size of holes in the director disk. The design of the director disk is a function of the delivery pressure, the required flow rate and the type of fuel to be used. Flow rates are also affected the ratio of oil if two-stroke mix is being used. Currawong will provide an appropriate director plate configuration to meet the operating requirements of the customer.

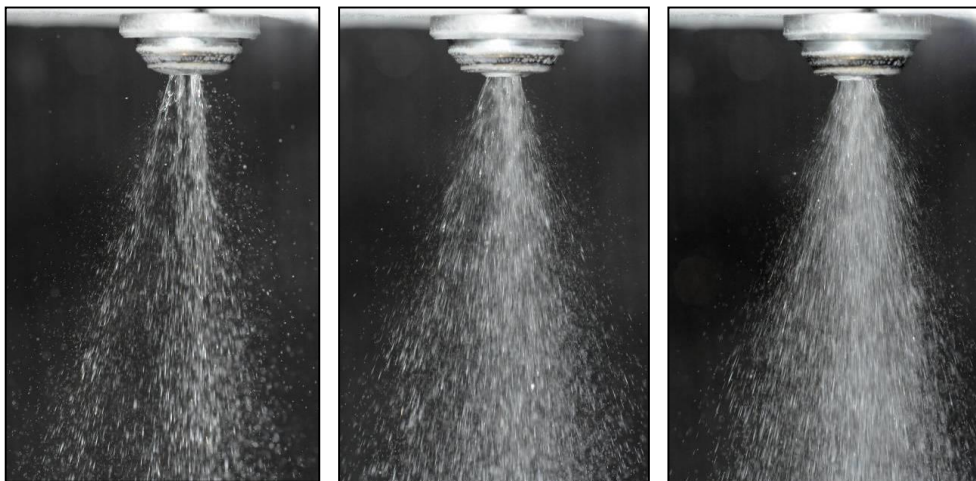
Currawong has several standard injectors, having the following flow rates:

Flow rate at 3 bar pressure*	Flow rate at 6 bar pressure*
13 g/min	18 g/min
22 g/min	31 g/min
32 g/min	45 g/min
42 g/min	59 g/min
43 g/min	61 g/min

- *These flow rates are typical for standard gasoline with a 50:1 fuel/oil ratio mix.
- Other fuel types and/or oil mixtures will have slightly different flow rates.
- These flow rates are for 100% duty cycle. For a typical engine the maximum fuel requirements should be no more than 80% of the maximum possible injector flow rate as shown in the table above.

Misting Performance

For best performance the fuel that exits from an injector should be broken up into a mist of very small droplets. Currawong has developed special director plate designs that guarantee good misting performance even at very cold temperatures. The photos below show the misting performance at pressures of **3 bar**, **4 bar** and **6 bar** respectively using heavy fuel (Jet A) and very cold fuel temperatures (approx -15°C (5°F)).



Effective shutter speed for these photos was determined by flash duration and is approx 0.1 mse

Fuel Line and Electrical Connections

Currawong injectors are normally supplied with a compact fuel line fitting designed to suit 4mm polyurethane tube.

The electrical connection is via a mil-spec micro-miniature circular connector, as shown, but other types of connectors can be supplied on request.



Mounting Options

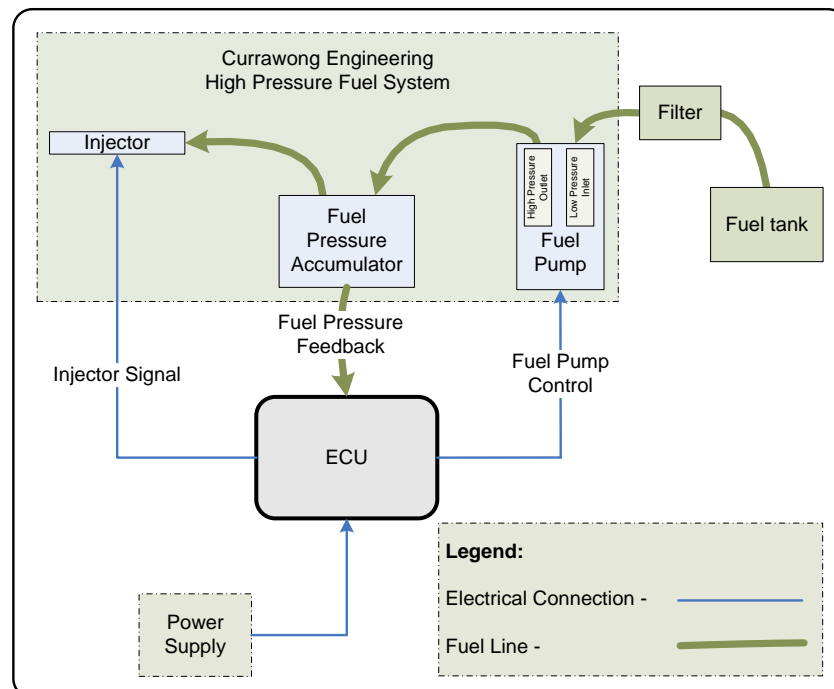
The injector can be supplied with a mounting flange that is laser welded to the injector nose to facilitate easy mounting. The flange can be oriented in any desired direction as shown in the examples below:



Currawong can also supply customized transition pieces such as shown in the right hand view.

Complete System

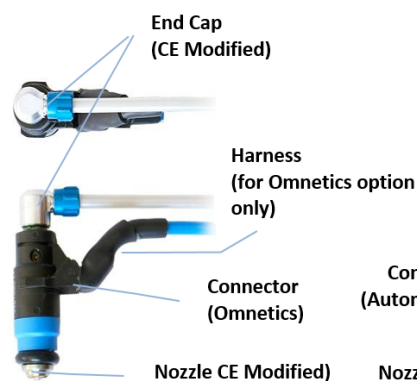
The injector can be supplied as a stand-alone item or as part of a complete electronic fuel injection system as shown in the block diagram below:



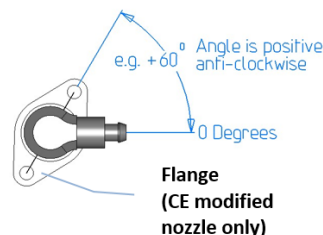
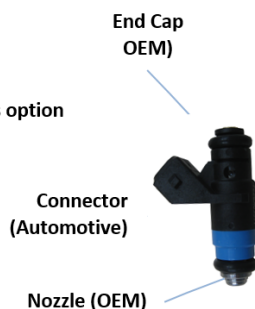
Ordering Guide

Injector code structure			646	-	##	-	#	-	#	-	#	-	##	-	#	-	#	-	##	
Standard injector capacities (YY)																				
Flow rate @ 3 bar (g/min)	Flow rate @ 6 bar (g/min)	Base code																		
13	18	646	13																	
22	31	646	22																	
32	45	646	32																	
42	59	646	42																	
43	61	646	43																	
Non standard capacities insert flow required @ 3 bar			YY																	
Nozzle	OEM																			
	CE modified																			
Connector	Automotive Mini Timer																			
	Microminiature circular																			
Harness	None																			
	CE (for microminiature connector only)																			
Harness Length	Not applicable if no harness fitted																			
	Length in cm																			
End Cap	Standard automotive																			
	CE Modified																			
Flange	None																			
	Required (CE modified nozzle only)																			
Flange Angle	Not applicable if no flange fitted																			
	Angle relative to the inlet line																			

CE modified options



OEM Configuration



Example: Order code 646-13-A-A-A-12-X-X-XX designates injector with 15 g/min flow rate @ 3 bar, CE modified nozzle, micro miniature circular connector, Harness required, harness length 12 cm, end cap standard automotive, no flange (flange angle not applicable).