

P8227

## VOLUMETRIC FUEL FLOW MEASUREMENT SYSTEM

### FEATURES

- ◆ Continuous Flow Measurement
- ◆ Designed for high fuel recirculating rate
- ◆ Pelton wheel design transducer
- ◆ Analogue output proportional to flow rate
- ◆ Digital display of flow rate
- ◆ Totaliser with reset facility
- ◆ Pressure controlled fuel delivery
- ◆ Suitable for both diesel and gasoline fuels

### INTRODUCTION

The Cussons P8227 Volumetric Fuel Flow Measurement System provides a low cost alternative to the complex problem of fuel consumption measurement.

The system is designed to provide a self contained unit for the supply and measurement of fuel at controlled pressure to both gasoline and diesel engines within the transducer capacity.

Systems may be used for test bed work or with vehicle testing on a chassis dynamometer.

### DESCRIPTION

The system comprises of two main items, a fuel handling module and a display unit.

#### **FUEL HANDLING MODULE**

The fuel handling module contains two fuel circulating loops connected by a fuel measuring section. In the inlet circuit fuel is pumped from a fuel supply system or header tank at controlled pressure to the measuring section. Any surplus fuel from the pressure regulator is returned to the fuel supply system. The measurement section incorporates a fuel filter, 'Pelton Wheel' type flowmeter and a pressure reducing valve.

The reducing valve ensures that the flow metering section remains under pressure, thus minimising the problems of vapour release/separation.

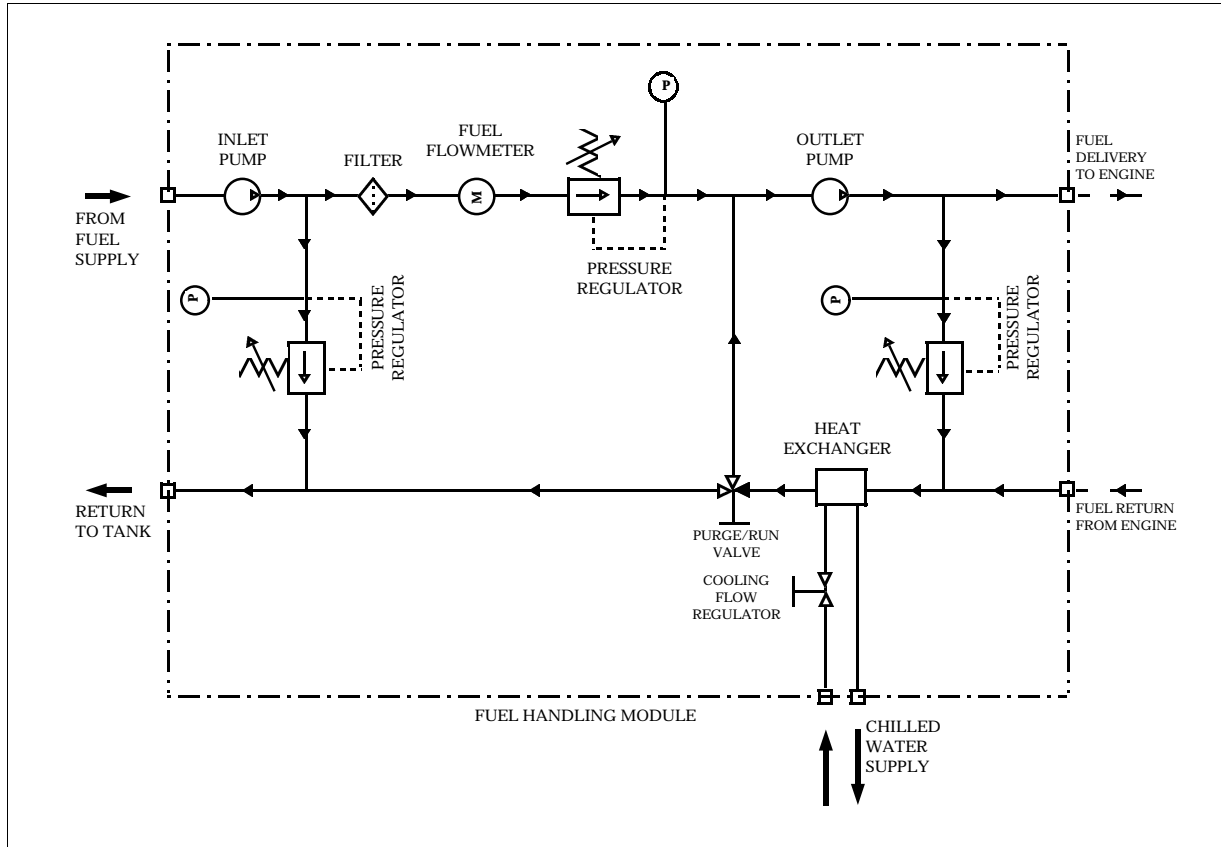
In the outlet or demand circuit fuel is drawn from the measurement section and pumped at controlled pressure to the engine under test. Fuel recirculated from the engine, together with the excess from the pressure regulator is returned to the delivery pump suction via a water cooled heat exchanger.

#### **DISPLAY UNIT**

A self contained unit supplied in an instrument case suitable for bench mounting and including a six digit LED indicator. The unit incorporates control on/off switch for the fuel pumps suitably interlocked via a customer input connection requiring a 12 volt dc signal energised to run.

An analogue voltage output is available via a suitable connector at the rear panel.

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**Circuit Schematic**

## SPECIFICATION

### FUEL HANDLING MODULE

Flow measuring device	Pelton Wheel type
Flow range	1 to 35 litres/hour
Repeatability	± 0.1%
Linearity	± 1.0%
Delivery pressure	up to 6 bar
Fuel inlet pressure	0 to 1.0 barg positive
Filtration upstream of transducer	5µm
Power requirement	12v DC
Dimensions	650mm wide x 250mm deep x 600mm high

Unit designed for wall mounting

### DISPLAY MODULE

Display	Six digit LED flow rate in litres/min totaliser (litres) - reset facility
Power requirement	240v 50hz 1ph alternative power supplies available to order
User interlock	12v DC
Dimensions	250mm wide x 300mm deep x 150mm high

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