Description

The FuelCom® Portable System is designed to provide accurate and reliable flow measurement of #2 diesel fuel in a compact, portable package. Designed for net flow applications, the system consists of two flowmeters, two temperature compensated sensors, a junction box, an AC/DC or DC/DC power supply, a datalogger and all necessary cables. The four available sizes are consistent with the ranges needed to provide flow measurement for most large diesel engines. Each meter is designed and built specifically for this application to provide optimal results. Additionally, its specialized internal geometry allows fuel flow to continue, even if the flowmeter is jammed by debris in the fuel supply – the bypassed fuel flow is sufficient to maintain engine operation from idle to full load.

EACH PORTABLE SYSTEM INCLUDES:

Item	Qty.	Part Number	Description
1	2	FC-XX-1-1	Flowmeter
2	2	FC900-4-1	Transmitter, RS-485
3	1	JB-60	Junction Box
4	1	FC201-01-12-01	Hand-Held Data-Logger
5	1	755-75-010	Cable, 10 ft.
6	2	755-75-020	Cable, 20 ft.
7	2	755-75-050	Cable, 50 ft.
8	1	CC1-XX-00	Fitted Case
9	1	PS1-1-1-0 and/or	Power Supply, AC/DC
10	1	PS2-2-1-0	Power Supply, DC/DC
11	1	PSC-20-010	PS2 Cable

Model Numbering System

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Base Model No.

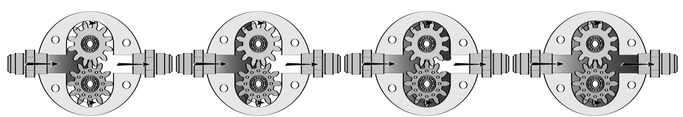
Meter Type
02 = 1/4"
03 = 3/8"
05 = 1/2"
10 = 1"

Power Supply
0 = None
1 = PS1-1-1-0 85-265 VAC IN
2 = PS2-2-1-0 9-32 VDC IN
3 = Both

Options
00 = Standard System

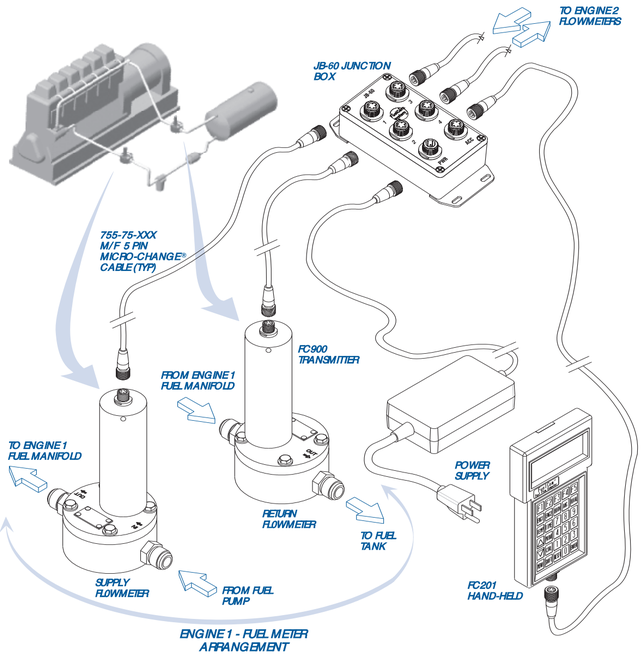
Model Specs.	Fitting Size SAE 37° Flare	Flow Rate GPH (L/hr)		Pressure Drop, PSI (KPa) @ 50° F (10° C)		@ 160° F (70° C)		Recommended Mesh Size		System Weight
		Minimum	Maximum	@ Max Flow	@ 70% Flow	@ Max Flow	@ 70% Flow	Sieve #	Micron	lbs (kg)
FC02	8	25 (95)	180 (681)	5.6 (39)	2.5 (18)	4.2 (29)	1.6 (11)	100	150	1.8 (0.8)
FC03	10	50 (189)	360 (1363)	5.2 (36)	2.4 (17)	4.1 (28)	1.6 (11)	80	177	2.3 (1.0)
FC05	12	100 (379)	500 (1893)	4.9 (34)	2.4 (17)	3.8 (26)	1.8 (13)	70	210	5.8 (2.4)
FC10	20	200 (757)	1250 (4732)	4.9 (34)	2.8 (20)	3.9 (27)	1.8 (13)	60	250	9.0 (4.1)

Principles of Operation



FuelCom® flowmeters use two rotating impellers driven by the flowing fuel. Magnets imbedded in the impellers activate a non-intrusive sensor which generates a pulsed output signal. Each pulse represents a known volume of fuel that is captured between the lobes of the impellers. The current fuel temperature is also measured by the non-intrusive sensor. Both the pulse and temperature data are sent to a microprocessor in the FuelCom® FC900 transmitter. The pulse data is then compensated for the temperature effects on the fuel viscosity, thereby providing a highly linearized output signal. The unique design of the FuelCom® flowmeters makes them impervious to pressure pulsations caused by engine fuel injectors.

FuelCom® Diesel Fuel Metering System



Local Representative:

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FTI FLOW TECHNOLOGY™

FuelCom system®

FuelCom® Portable Diesel System

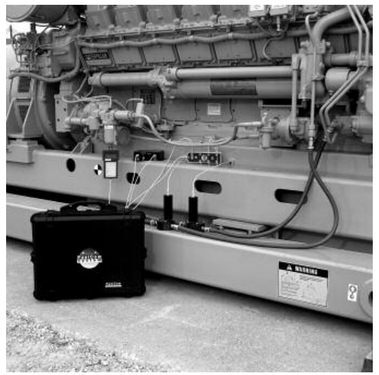
Portable Precision

Description

In an industry as competitive as the diesel engine market, technological advancements allow us to offer you an engine diagnostics tool that is reliable, versatile and flexible. The FuelCom® Portable System is a revolutionary way to accurately measure diesel fuel consumption. This advanced system consistently delivers temperature compensated, fuel data–in real time–while withstanding the continuous vibration and pressure pulsations associated with diesel engines.

FuelCom® Portable System is a general purpose diesel engine efficiency tool designed for "real world" diesel applications which can run invariably under less than ideal conditions in field environments. It is capable of accurately monitoring and storing important engine performance data under adverse conditions and is easy to install and maintain.

FuelCom® can indicate deteriorating engine conditions and thus warn of pending problems. Usage of the portable system varies from short term test runs to permanent installations of single or multiple engines. This advanced system consistently delivers accuracy rivaling that of engine test stands, and it provides full temperature and viscosity compensation to 60° F API, making it the best fuel metering system offered. The FuelCom® portable system may be used on all major engines (500 HP+) including Caterpillar, EMD, Detroit Diesel, Wartsilla and others.



Protected by one or more U.S. Patents:
4641522, 4798092, 4815318, 4911010, 4996888, 5027653, 5325715

FuelCom® Portable Diesel System

FuelCom® Portable System

Benefits of monitoring fuel consumption:

- Accurate data based on the temperature-compensated difference in supply and return flows
- Efficiency-versus-load can be established for individual engines
- Enhances planned maintenance / overhauls
- Effective engine diagnostics / trouble shooting
- Historical consumption analysis
- Real time performance
- Determines an engine's specific fuel consumption and efficiency curves
- Engine efficiencies are needed to control operating costs.
- Analyze condition of existing equipment
- Verification of engines upgrade and overhauls
- Emissions can be reduced by optimizing engine efficiency
- Allow testing of engines in remote locations
- Non-clogging flowmeter design prevents starving the engine of fuel if the flowmeter jams
- In-line serviceable – no need to remove the flowmeters for maintenance
- No field calibration required

The FC201 data logger is a hand-held flow computer which allows the user to interrogate the temperature compensated engine fuel data real time. It can store valuable fuel data and an engine's historical information which can be downloaded to a PC for analysis.

FuelCom® is also available for permanent installation.

Features

- Designed specifically for #2 diesel fuel
- 1/4", 3/8", 1/2" and 1" line sizes
- Flowmeter reference accuracy ±1% of net fuel consumption from 50° F to 160° F (10° C to 70° C) operating temperature for two meter system (supply/return)
- Built-in inlet flow conditioner for improved accuracy and piping insensitivity
- Temperature compensated output to 60° F API
- Lockable flanges on case
- Flowmeter has only two moving parts
- In-line maintenance, easy installation
- Non-clogging flowmeter design prevents starving engine if the flowmeter jams
- Case floats in salt water with a 55 pound load
- Watertight to 30 feet
- Pulse-out or serial communications

FuelCom® System Specifications

Flowmeter

Operating Fuel Temperature	50° F to 160° F (10° C to 70° C)
Operating Pressure	
Standard	250 psig (1724 KPa)
Turndown Ratio *(Based on maximum rated flow)*	> 7:1 standard
Calibration	50° F to 160° F (10° C to 70° C) #2 Diesel Fuel
Accuracy	±1% of net fuel consumption from 50° F to 160° F (10° C to 70° C) for two meter system (supply/return) Temperature compensated to 60° F API
Construction	
Body	Anodized aluminum
Impellers	Teflon® anodized aluminum
O-ring	Viton®
Shims	300 series stainless steel
Bearing/Shafts	440C, 316 SST

Sensor/Transmitter

Supply Voltage	12–36 VDC
Supply Current	150mA @ 15 VDC
Operating Frequency	10–720 Hz FC02 thru FC05: 1.0 Hz equals 1 GPH FC10: 0.1 Hz equals 1 GPH
Output	1) NPN Open Collector (no pull-up resistor provided) Sinks up to 100mA 2) RS485 (2-Wire) Serial Communication
Operating Temperature	
Sensor	3° F to 185° F (-16° C to 85° C)
Cable	-40° F to 212° F (-40° C to 100° C)
Sensor Body	Anodized aluminum
Cable	5-pin Micro-Change® connectors, 22 AWG, PVC jacket

Flow Computer

Case	Cycolac® ABS with retractable hanger
Display	Backlit Supertwist LCD, 3/16" high character 4 rows by 20 characters per row
Keypad	Sealed membrane keypad including 5 user-programmable "F" keys 30 keys
Memory	128 K flash EEPROM 256 K static RAM, datalogger battery backed
Interface	5-pin Micro-Change® connector
Communications	RS-485 @ 19200 baud
Power	9–28 VDC
Software	Custom communication and user interface software. Menu driven pre-programmed and user-programmed functions.

Specifications are for reference only and are subject to change without notice.