



Diesel Fuel Measurement Unit / Instrumentation

The Diesel Fuel Measurement Unit (FMU) accurately measures the weight of diesel fuel (not for use with gasoline) in a beaker and calculates the rate of fuel consumption by continuously analyzing the weight of the beaker as the engine draws and returns fuel. The beaker is self-filling and will automatically maintain the minimum and maximum amounts of diesel fuel in the beaker. All units include a Heat Exchanger to cool the return diesel fuel and maintain a beaker temperature of 100°F (38°C).

In Engine Test Cells the Diesel FMU may eliminate the need for a Day Tank. Taylor Dynamometer's DynPro₂ Data Acquisition and Control System is required for operation.

Features

Fuel Shutoff Valve

Used to close the fuel line to the engine when the emergency stop button is activated through the DynPro₂ Data Acquisition and Control System.

Head Pressure Isolation Unit

Depending on the installation, the fuel supply is typically the vehicle fuel tank, or a facility fuel storage tank. If a facility storage tank is used, it is recommended that a valve be placed between the fuel source and the measurement system. The Head Pressure Isolation Unit is a check valve system that aids in the filling and emptying of the breaker in the Diesel FMU. The unit is required when the fuel storage elevation is above the fuel measurement system beaker. The 8K unit has a ball valve style head pressure isolation unit.

Unit Mobility

The 1,000 and 4,250 Diesel FMUs come standard with 4 caster wheels for easy mobility, however, the wheels can be removed to make the unit stationary. The 10,000 Diesel FMU Enclosure has forklift pockets.



10,000 hp (7,457 kW) Diesel FMU

Prime Pump (Optional)

The Diesel FMU can be equipped with a prime pump that can prime the engine with fuel. After the breaker is filled with diesel fuel, the prime pump, which is mounted within the unit, pumps fuel to the engine to start the engine.

Prime Pump features include:

- Delivers up to 30 psi (2.1 bar) working pressure
- Built-in pressure switch automatically starts and stops pump instantaneously when fuel line prime pressure changes
- Maximum flow 0.9 gpm (4 lpm)

Hydrometer Kit for API (Optional)

187 mm, NIST Standards Hydrometer for API

- API Range: 19 to 41
- Temp Range: 20 to 130°F (-6.6 to 54.4°C)

Graduated Cylinder, 250mL, Clear
Portable Tool Box

Specifications

Units	Fuel Measurement Unit Models		
	1,000	4,250	10,000
Capacities - hp (kW)	1,000 (746)	4,250 (3,169)	10,000 (7,457)
Burn rate capacity - gpm (lpm)	1.66 (6.3)	7.05 (27)	13.3 (50)
Burn rate capacity - lb/hr (kg/hr)	700 (318)	2,975 (1,349)	5,600 (2,948)
Total fuel flow - gpm (lpm)	5.81 (22)	24.67 (95)	40 (151)
Total fuel flow - lb/h (kg/hr)	2,450 (1,100)	10,413 (4,725)	19,400 (8,800)
Fuel pressure drop - psi (kPa)	0.4 (2.8)	0.9 (6.2)	0.9 (6.2)
Fuel supply temperature - °F (°C)	100 (38)	100 (38)	100 (38)
Supply fuel pipe diameter - in. (mm)	5/8 (16)	1 (25)	1 1/2 (38)
Return fuel pipe diameter - in. (mm)	1/2 (13)	1 (25)	1 1/2 (38)
Make-up fuel pipe diameter - in. (mm)	1 (25)	1 (25)	1 1/2 (38)
Water flow - gpm (lpm)	6.51 (25)	28.36 (107)	29.57 (112)
Water supply pressure - psi (kPa)	40 (276)	40 (276)	40 (276)
Water supply and return pipe diameters - in. (mm)	1 (25)	1 (25)	1 1/2 (38)
Amp requirements - 110 w/230 v	20/15	20/15	20/15
Fuel flow accuracy	±1%	±1%	±1%
Fuel density accuracy	0.1° API	0.1° API	0.1° API
Fuel temperature accuracy	±2°	±1°	±1°
Voltage	115 or 230	115 or 230	115 or 230
Shut off valve	Yes	Yes	Optional
Prime pump	Optional	Optional	Optional
Head pressure isolation	Yes	Yes	Yes*
Casters	Yes	Yes	No
Forklift pockets	No	No	Yes
Fuel Hose Interconnect Kit (Optional with Engine, standard with Chassis)			
4 Hoses - in. (mm)	1 (25)	1 (25)	1 1/2 (38)
Hose Ends - NPT on one end, JIC on other end - in. (mm)	1 (25)	1 (25)	1 1/2 (38)

* Ball Valve style

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