

Mass Flow Fuel Measurement System



24280.1 Mass Flow Fuel Measurement System - 8,000 HP shown

Overview

The Power Test Mass Flow Fuel Measurement System is a mass measurement system that accurately measures the rate of fuel consumption and continuously analyzes fuel quality during engine testing.

Mass Flow Fuel Measurement System:

- Closed loop system
- Integrated heat exchanger to cool return fuel and maintain supply temperature
- Rated for continuous testing of engines up to 8,000 HP (5,884-kW), dependent on model
- Fuel priming system included to facilitate engine starting
- High Accuracy Coriolis Flow Meter: $\pm 0.25\%$ FS
- Wall mounted cabinet includes integrated secondary fuel filter
- Designed for diesel fuel containing less than 1.0% weight (10,000ppm) of sulfur. A High Sulfur option is available.

Mass Flow Fuel Measurement System is designed to work with the PowerNet dynamometer data acquisition and control systems to display the following:

Measured:

- Mass Fuel Flow
- Specific Gravity
- Fuel Temperature

Calculated:

- Volume Fuel Flow
- BSFC (Brake Specific Fuel Consumption)
- API Gravity (American Petroleum Institute)
- Total Fuel Burned

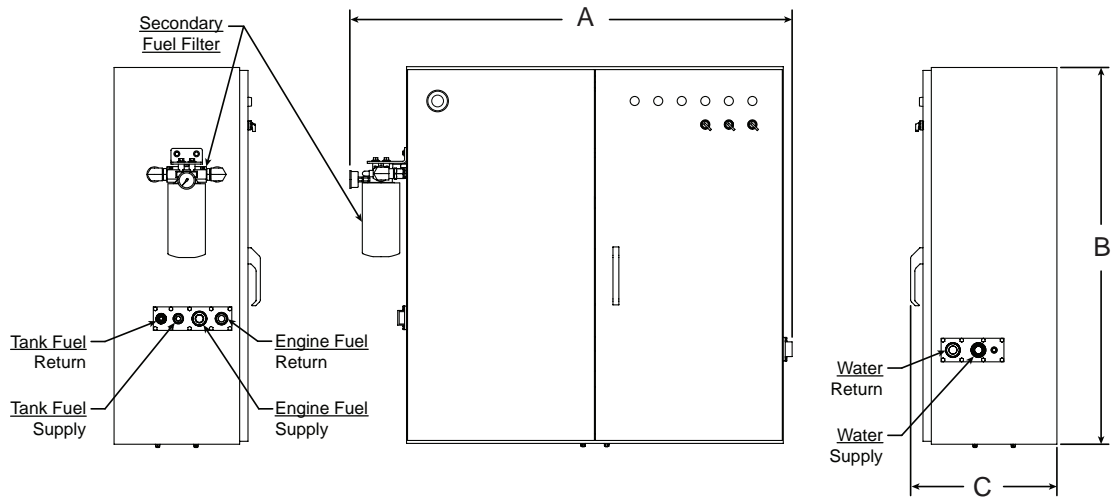
Description	Part #	Measurement Range		Voltage (VAC) / Phase / Hz	Amperage (Amps)	Water Flow Req. @ 85°F (GPM)*	Weight lbs (kg)
		GPM	Lb/H				
Mass Flow 3,150 HP	24280.2	.02 - 2.6	8.4 - 1,085	208-240/1/50-60 Hz	< 10	24	470 (214)
Mass Flow 8,000 HP	24280.1	.05 - 6.7	21 - 2,795	208-240/1/50-60 Hz	< 10	62	715 (325)

* Water flow requirements are based on the recommended maximum water temperature of 85°F to achieve a 90°F fuel temperature.



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Mass Fuel Measurement System



Description	Engine Fuel Port Size (inches)		Tank Fuel Port Size (inches)		Water Port Size (inches)		Cabinet Dimensions (inches)		
	Supply	Return	Supply	Return	Supply	Return	A	B	C
Mass Flow 3,150 HP	1	3/4	1/2	1/2	1	1	44 7/16	48	17 1/16
Mass Flow 8,000 HP	1 1/4	1	3/4	3/4	1 1/4	1 1/4	56 3/8	48	18 5/8

Description	Engine Fuel Port Size (mm)		Tank Fuel Port Size (mm)		Water Port Size (mm)		Cabinet Dimensions (mm)		
	Supply	Return	Supply	Return	Supply	Return	A	B	C
Mass Flow 2349 kW	25	19	13	13	25	25	1129	1220	434
Mass Flow 5884 kW	32	25	19	19	32	32	1432	1220	473

Volumetric Fuel Measurement System



24282.1 Volumetric Fuel Measurement System - 6,000 HP shown

Overview

The Power Test Volumetric Fuel Measurement System is a volumetric fuel flow measurement system that accurately measures the rate of fuel consumption by continuously analyzing the flow of fuel as the engine draws and returns fuel.

Volumetric Fuel Measurement System:

- Closed loop system
- Integrated heat exchanger to cool return fuel and maintain supply temperature
- Rated for continuous testing of engines up to 6,000 HP (4,450-kW), dependent on model
- Fuel priming system included to facilitate engine starting
- Precision Flow Meter Accy: $\pm 0.5\%$ FS
- Hydrometer included to measure specific gravity
- Wall mounted cabinet includes integrated secondary fuel filter
- Designed for diesel fuel containing less than 1.0% weight (10,000ppm) of sulfur. A High Sulfur option is available.

Volumetric Fuel Measurement System is designed to work with the PowerNet dynamometer data acquisition and control systems to display the following:

Measured:

- Volume Fuel Flow
- Fuel Temperature

Calculated:

- Mass Fuel Flow
- Specific Gravity
- BSFC (Brake Specific Fuel Consumption)
- API Gravity (American Petroleum Institute)
- Total Fuel Burned

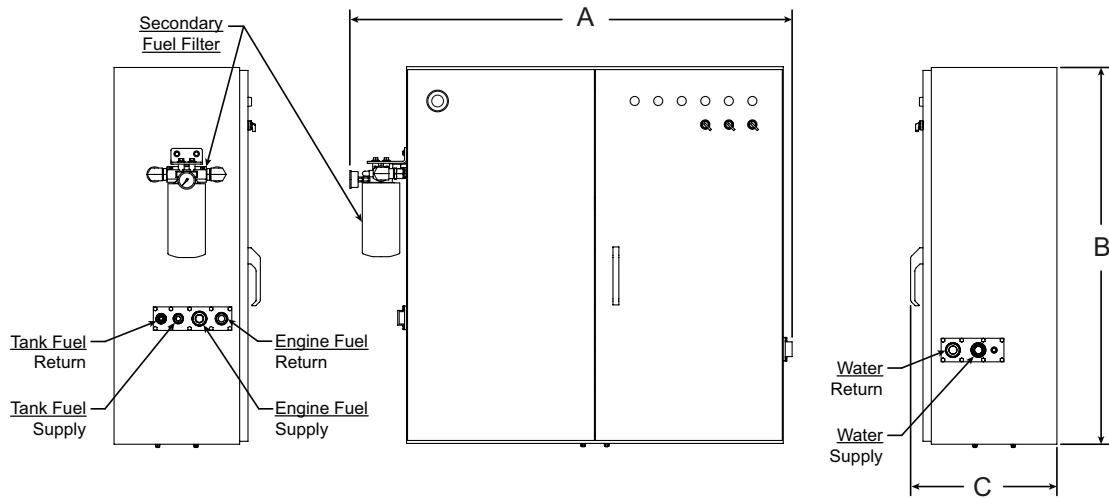
Description	Part #	Measurement Range		Voltage (VAC) / Phase / Hz	Amperage (Amps)	Water Flow Req. @ 85°F (GPM)*	Weight lbs (kg)
		GPM	Lb/H				
Vol. Flow 3,150 HP	24282.2	.05 - 2.6	20.8 - 1,085	208-240/1/50-60 Hz	< 10	24	470 (214)
Vol. Flow 6,000 HP	24282.1	.06 - 5.0	25 - 2,086	208-240/1/50-60 Hz	< 10	46	715 (325)

* Water flow requirements are based on the recommended maximum water temperature of 85°F to achieve a 90°F fuel temperature.



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Volumetric Fuel Measurement System



Description	Engine Fuel Port Size (inches)		Tank Fuel Port Size (inches)		Water Port Size (inches)		Cabinet Dimensions (inches)		
	Supply	Return	Supply	Return	Supply	Return	A	B	C
Vol. Flow 3,150 HP	1	3/4	1/2	1/2	1	1	44 7/16	48	17 1/16
Vol. Flow 6,000 HP	1 1/4	1	3/4	3/4	1 1/4	1 1/4	56 3/8	48	18 5/8

Description	Engine Fuel Port Size (mm)		Tank Fuel Port Size (mm)		Water Port Size (mm)		Cabinet Dimensions (mm)		
	Supply	Return	Supply	Return	Supply	Return	A	B	C
Vol. Flow 2349 kW	25	19	13	13	25	25	1129	1220	434
Vol. Flow 4475 kW	32	25	19	19	32	32	1432	1220	473