M30 5-30 GPM

Fuel Meter

Models: M30-G6N, M30-L6N, M30-G8N,
M30-L8N,M30-G8B, M30-L8B

EN

GETTING STARTED

SAFETY /
SPECIFICATIONS

ASSEMBLY /
INSTALLATION

OPERATION

MAINTENANCE

BEFORE YOU BEGIN

Usage Requirements

- This manual covers fuel meter models M30-G6N, M30-L6N, M30-G8N, M30-L8N, M30-G8B, and M30-G8B.

- This fuel meter is designed, tested and approved for use with thin viscosity petroleum fuels such as gasoline blends (up to E15), diesel fuel blends (up to B20) and kerosene.
Please take all due precautions when handling these flammable liquids.

- Do not use this meter for measuring any fluids other than those for which it was designed. To do so may damage the meters' components and will void the warranty.

- The M30 Mechanical Fuel Meter is designed for the field measurement of thin viscosity petroleum fuels only and intended for use with pump systems in the 5 to 30 GPM or 19 to 114 L/m flow range (not intended for gravity flow systems). Using mechanical gears, these meters translate flow data from a nutating disk into calibrated units which are indicated on the face of the meter. This meter is factory calibrated for diesel fuel. A field calibration feature is available for other fluids (see Calibration section).

Tools Needed

- 10mm Open-end Wrench, Hex Wrenches (Hex Keys, 3mm & 5mm), Thread Tape pr Pipe Thread Sealing Compound (approved for use with flammable liquids)

UNPACKING

Contents

- (1) Nutating Disc Fuel Meter, U.S. Gallon or Litre Version
- (1) Register Knob
- (1) 3/4 in. or 1 in. NPT or 1 in. BSPP Inlet Fitting with O-ring and mounting screws
- (1) 3/4 in. or 1 in. NPT or 1 in. BSPP Outlet Fitting with O-ring and mounting screws

Inspect

- After unpacking the unit, inspect carefully for any damage that may have occurred during transit. Check for loose, missing or damaged parts. Shipping damage claims must be filed with carrier.
- Review General Safety Instructions and all Caution, Warning, and Danger statements as shown.

3

GETTING STARTED

SAFETY /
SPECIFICATIONS

ASSEMBLY /
INSTALLATION

OPERATION

MAINTENANCE

EN

GENERAL SAFETY INSTRUCTIONS

IMPORTANT: It is your responsibility to:

• Know and follow applicable national, state and local safety codes pertaining to installing and operating electrical equipment for use with flammable liquids.

• Know and follow all safety precautions when handling petroleum fuels.

• Ensure that all equipment operators have access to adequate instructions concerning safe operating and maintenance procedures.

Observe all safety precautions concerning safe handling of petroleum fuels.

⚠ DANGER *To prevent physical injury or property damage, observe precautions against fire or explosion when dispensing fuel. Do not operate the meter in the presence of any source of ignition including running or hot engines, lighted tobacco products, gas or electric heaters, or any type of electronic device. A spark can ignite fuel vapors.*

⚠ WARNING *Avoid prolonged skin contact with petroleum fuels. Use protective goggles, gloves and aprons in case of splashing or spills. Change saturated clothing and wash skin promptly with soap and water.*

⚠ WARNING *Any components such as hose, nozzle, or pump added to your meter must be statically grounded and approved for use with petroleum fuels.*
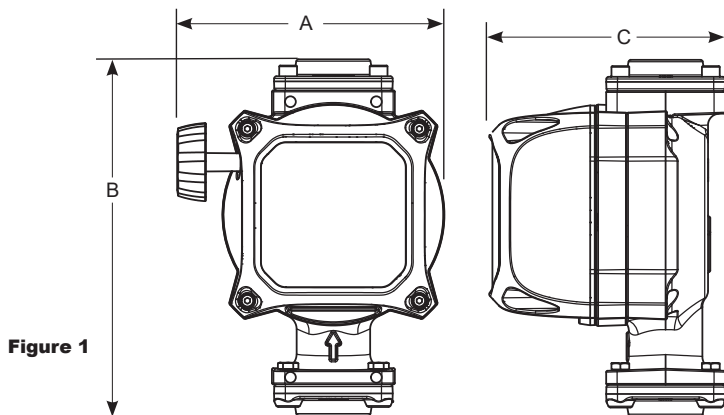
⚠ WARNING *This product shall not be used for pumping fuel or other liquids into aircraft.*

SPECIFICATIONS

M30-G6N, M30-L6N, M30-G8N, M30-L8N, M30-G8B, & M30-L8Bf

Dimensions

A. Meter Assy Width	5.91 in. (15.01 cm)
B. Meter Assy Height	7.88 in. (20.01 cm)
C. Meter Assy Depth	5.21 in. (13.23 cm)

Figure 1

SPECIFICATIONS (CONTINUED)

	M30-G6N, M30-G8N, & M30-G8B (GALLON MODEL)	M30-L6N, M30-L8N, & M30-L8B (LITRE MODEL)
Unit of Measure	U.S. Gallon	Litre
Flow Range	5 to 30 GPM	19 to 114 L/min
Operating Temperature	-20° F to 125° F	-29° C to 52° C
Typical Accuracy	± 2%	
Technology	Nutating Disc	
Housing, Cover, Fittings	Aluminum	
Maximum Working Pressure	50 PSIG / 3.4 bar	
Pressure Drop (at Max. Flow)	Diesel: 7.0 PSI / 0.5 bar	
	Unleaded: 5.0 PSi / 0.3 bar	
Inlet/Outlet Threads	3/4 in. NPT or 1 in. NPT or 1 in. BSPP	
Maxium Batch Total	999.9	
Maximum Cumulative Total	999,999.9	
Weight	8.1 lbs	3.7 kg
Maximum Dimensions		
Width:	5.9 in.	15.0 cm
Height:	7.9 in.	20.0 cm
Depth:	5.3 in	13.3 cm
Wetted Materials		
Nutator Assembly	PBT (Polybutylene Terephthalate), Stainless Steel	
Seals	NBR (Nitrile Butadiene Rubber)	
Mag-Drive	Acetal, Stainless Steel, Neodymium (Nickel Plated)	
Approvals	CE Ex c UL us LISTED	

NOTE: Accuracy is factory calibrated using diesel fuel. Field calibration is available on all models.

DECLARATION OF CONFORMITY

We declare, that the product:

Product Name: M30 Mechanical Fuel Meter

Model Numbers: M30-G*N, M30-L*N, M30-G*B, M30-L*B

Conforms with the requirements of the Directive (s) below by compliance with the Standards subsequently listed:

1.   Council Directive 2014/34/EU relating to equipment and protective systems intended for use in potentially explosive atmospheres,

ISO 80079-36: 2016, Non-electrical equipment for explosive atmospheres-Basic methods and requirements.

ISO 80079-37:2016, Non -electrical equipment for explosive atmospheres-Non electrical type of protection constructional safety "c".

I the undersigned, hereby declare that the equipment specified above conforms to the above Directive(s) and Standard(s).

Signature: *Victor Lukic*

Full Name: Victor Lukic

Position: President

           Great Plains Industries, Inc.

Place: Wichita, KS USA

           January 2020

INSTALLATION INSTRUCTIONS

⚠ **CAUTION** *Your system must be installed on a vented tank. If the tank is unvented, your local dealer or distributor can supply a pressure vent cap.*

⚠ **CAUTION** *If the meter is located in a rigid piping system where the fluid is trapped (for example, by gravity, valves or nozzles) thermal expansion of the fluid can create pressure spikes that can damage a meter. Install a thermal relief valve or otherwise allow for thermal expansion of the fluid.*

Before Installing

NOTE: All threaded fuel connections must be sealed with thread tape or a pipe thread sealing compound approved for use with petroleum fuels and tightened securely to prevent leakage.

Before installing your meter, review the safety instructions in the *General Safety Instructions* section at front of manual. Examine your meter to make sure there are no visible signs of shipment damage. Plan your meter installation by reviewing the following procedures. Prior to installation, determine the orientation of the meter body required for the system. The arrows on the housing are there to indicate flow direction and assist in this process (see Figure 2).
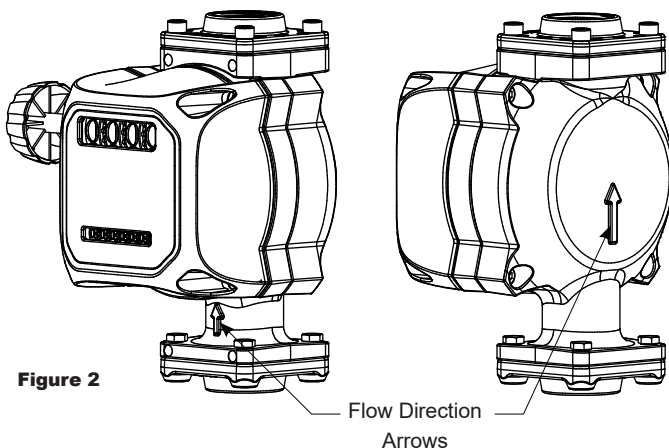
Figure 2

Flow Direction Arrows

GETTING STARTED

SAFETY /
SPECIFICATIONS

ASSEMBLY /
INSTALLATION

OPERATION

MAINTENANCE

EN

INSTALLATION INSTRUCTIONS (CONTINUED)

Change Register Orientation

NOTE: If the meter is plumbed in any orientation other than bottom-up flow, the register may need to be reoriented.

1. Using a 3mm L-hex wrench, remove the (4) screws that hold register in place

2. Rotate the register to the desired orientation, making sure the O-ring is fully seated (see Figure 3).

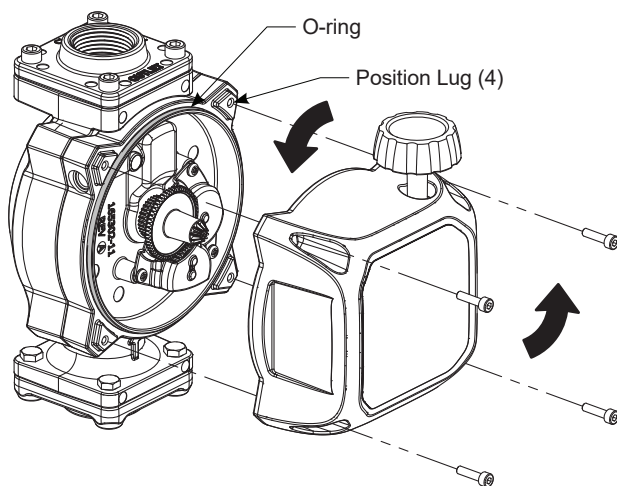3. Reattach the register using the (4) screws previously removed (see Figure 3).

O-ring

Position Lug (4)

Figure 3

INSTALLATION INSTRUCTIONS (CONTINUED)

Installation Meter - Threaded Connection

1. Remove protective plugs from the meter inlet and outlet ports.

2. Wrap threaded male connections with thread tape or use a pipe sealant compound compatible with petroleum fuels.

3. Install the meter using appropriately sized fittings. "INLET" and "OUTLET" threads are labeled to assist piping connections.

4. Install other system components on the meter and tighten snugly.

Installation Meter - Modular Connection

1. Using a 5mm hex wrench and 10mm open-end wrench, remove inlet and outlet fitting. They will not be used in the modular connection (see Figure 4a).

2. Using 5mm hex wrench, remove the outlet of modular pump and reattach it to the outlet flange of the meter, making sure the O-ring is fully seated (see Figure 4b).

3. Using the hex bolts removed in step 1, attach meter inlet flange to pump outlet flange, making sure O-ring is fully seated (see Figure 4b.

NOTE: If modular filter adapter is also used in set-up, first attach filter adapter to pump outlet then attach the meter and filter to the filter adapter (see Figure 4c).

4. Install other system components on the meter and tighten snugly.
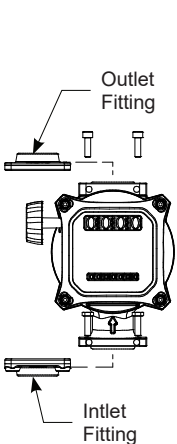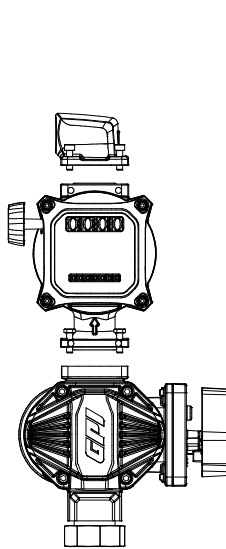
Modular Connection Types

Outlet Fitting

Intlet Fitting

Outlet Fitting

Meter

Filter Adapter

Pump

Filter

Figure 4a   **Figure 4b**   **Figure 4c**

GETTING STARTED

SAFETY /
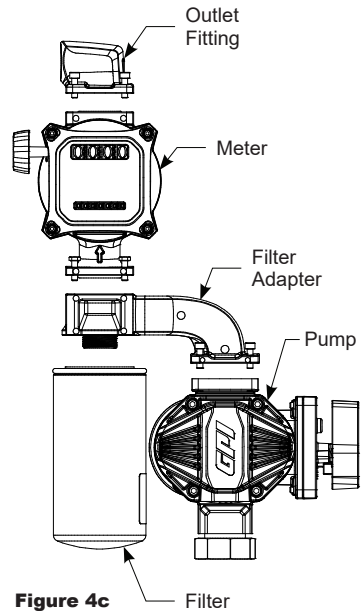SPECIFICATIONS

ASSEMBLY /
INSTALLATION

OPERATION

MAINTENANCE

EN

OPERATION

⚠ CAUTION *Always follow safety precautions when operating this equipment. Review the General Safety Instructions at front of manual.*

IMPORTANT: Before each use, visually check the meter to ensure it is securely connected to other system components and there is no leakage. Promptly wipe spilled fuel from the meter's exterior and other system components.

NOTE: The large meter display represents the Batch Total for each fuel delivery. Before dispensing, reset the Batch Total to zero by turning the knob (see Figure 5)

NOTE: The small display represents the Cumulative Total of all fuel deliveries and cannot be reset.

Calibration

The Calibration Screw is located on the side of the meter (see Figure 6) and can be adjusted with a 3mm hex wrench. The meter is accurately calibrated at the factory for use with diesel fuel. In the event the screw is accidentally moved, the meter will need to be recalibrated. To recalibrate the meter for diesel fuel, turn the screw completely in (clockwise) then back out (counter-clockwise) 3 turns.

To recalibrate the meter for gasoline, turn the screw completely in (clockwise). The Cal-screw does not need to be turned back out for gasoline.

Due to differences in viscosity and flow rates, the meter may require recalibration to measure other fluids or to adjust for inaccuracies.

In general, if the register indicates less than what is dispensed, the Cal-Screw needs turned in; if the register indicates more than what was dispensed, the Cal-Screw needs turned out.

NOTE: Never back the Cal-Screw out more than 12 turns from completely closed. Doing so could inhibit the seal resulting in leaking.
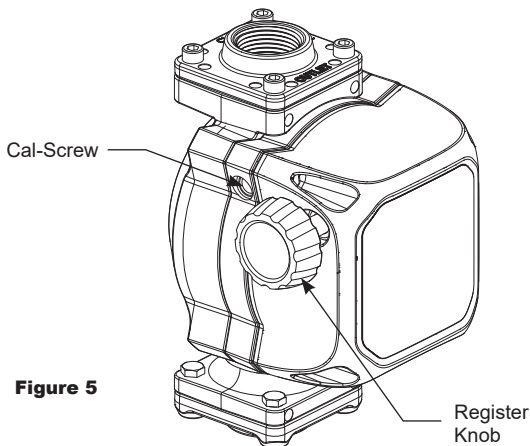
Cal-Screw

Figure 5

Register Knob

10

EN

GETTING STARTED

SAFETY /
SPECIFICATIONS

ASSEMBLY /
INSTALLATION

OPERATION

MAINTENANCE

MAINTENANCE

NOTE: This meter is designed for minimum maintenance. Inspect meter and components regularly for fuel leaks. Keep the meter exterior clean to help identify leaks.

IMPORTANT: This fuel meter is designed, tested and approved for use with thin viscosity petroleum fuels such as gasoline blends (up to E15), diesel fuel blends (up to B20) and kerosene (see **BEFORE YOU BEGIN:** *Usage Requirements* at front of manual). Use of the meter with unauthorized fluids will void the warranty.

Clean Register and Nutator Assembly

1. Turn the system off and disconnect from power. Remove the coverplate and O-ring, and inspect for damage (see Figure 6). If O-ring is damaged, replace.

2. Remove (2) register screws and register from cover plate. Clean register with a soft-bristled brush and water. If the register is very dirty, compressed air may be used. Re-install register.

3. Remove the gearplate and O-ring from the backshell, and inspect for damage (see Figure 6). If O-ring is damaged, replace.

4. Remove (2) nutator assembly screws and nutator assembly from back shell. Clean nutator assembly with a soft-bristled brush and solvent. If the nutator assembly is very dirty, compressed air may be used. Replace nutator assembly.

5. Coat the O-rings lightly with grease. Reinstall meter components. Ensure the O-rings are properly seated and tighten securely.

Scan the QR code below for more maintenance, troubleshooting, and repair resources

gpi.net/m30

800-835-0113

GPI / GPRO®

Limited Warranty Policy

Great Plains Industries, Inc. hereby provides a limited warranty against defects in material and workmanship on all products Great Plains Industries, Inc. manufacturers. The warranty period shall begin on the date of purchase confirmed with the original purchase receipt or, if not available, the date of manufacture. Manufacturer's sole obligation under the following warranties will be limited to either, at Manufacturer's option, replacing or repairing defective goods. If the product is no longer available, replacement may be made with a similar product of equal or greater value. Buyer's exclusive remedy for breach of any such warranties will be enforcement of such obligations of Manufacturer. The warranty shall extend to the purchaser of this product and to any person to whom such product is transferred during the warranty period.

Warranty shall not apply if:

The product has been subjected to neglect, misuse, abuse or damage or has been installed or operated other than in accordance with the manufacturer's operating instructions or the product has been altered or modified outside the warrantor's duly appointed representative.

Product components considered wear items, i.e. vanes, etc., are NOT included within the scope of this warranty.

Charges for shipping and insuring packages to Great Plains Industries, Inc. are the customer's responsibility. Great Plains Industries, Inc. will ship the warranted product back to the customer via ground shipping free of charge for shipments within the United States. International shipping charges and customs fees to and from Great Plains Industries, Inc. are the customer's responsibility.

GREAT PLAINS INDUSTRIES, INC., EXCLUDES LIABILITY UNDER THIS WARRANTY FOR DIRECT, INDIRECT, INCIDENTAL AND CONSEQUENTIAL DAMAGES INCURRED IN THE USE OR LOSS OF USE OF THE PRODUCT WARRANTED HEREUNDER.

THE COMPANY HEREWITH EXPRESSLY DISCLAIMS ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OTHER THAN FOR WHICH IT WAS DESIGNED.

THIS WARRANTY GIVES YOU SPECIFIC RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM U.S. STATE TO U.S. STATE.

In compliance with MAGNUSON MOSS CONSUMER WARRANTY ACT – PART 702 (governs the resale availability of the warranty terms)

The following respective warranty periods apply:

5 YR WARRANTY

FIVE-YEAR WARRANTY applies to the following product families:

GPRO® Fluid Transfer Pumps: V25-012, V25-024, V20-115, V20-230, PRO35-115

GPRO® Remote Dispensers: QM40-RD

GPRO® Fuel Meters: QM40

GPI® Fuel Meters: M30

2 YR WARRANTY

TWO-YEAR WARRANTY applies to the following product families:

GPI® Fluid Transfer Pumps: G8P, EZ8, M-150S, M-180S, M-240S, G20-012*, M-1115S, P-200, PA-200, P-200H, PA-200H, HP-100, DP-20, RP-10

GPI® Fluid Meters: 01A, 01N, FM-300H, LM51DN, LM-300

1 YR WARRANTY

ONE-YEAR WARRANTY applies to the following products:

GPI® Oil Transfer Pumps: L5020, L5116, L5132

90 DAY WARRANTY

90-DAY WARRANTY applies to the following products:

GPI® Fluid Transfer Hand Pumps: RP-5, BP-12, LP-50

90-DAY WARRANTY applies to Spare Parts, Kits and Accessories including Nozzles*, Hoses, Swivels, Vent Caps, Filter Adapters, etc.

90-DAY WARRANTY applies to Factory Repairs from repair date or the balance of the original warranty whichever is longer.

***Extended warranty coverage available on select products.** Requires registration of product with manufacturer. Visit greatplainsindustries.com/register-your-product

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