

Blancett[®]

Flow Meters

MODEL 200 MULTI-JET FLOW METER

- For Water Applications -

INSTALLATION & INSTRUCTION MANUAL



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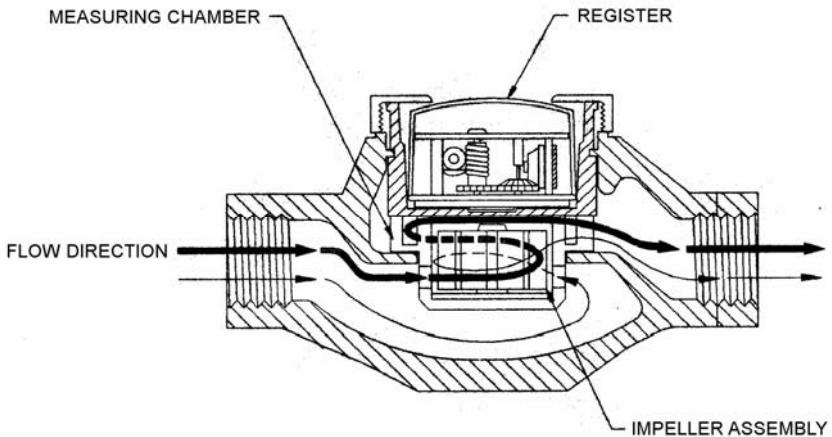
***Notice:** Blancett reserves the right to make any changes or improvements to the product described in this manual at any time without notice.*

INTRODUCTION

The Blancett Model 200 multi-jet flow meter provides the petrochemical industry with an economically priced, high pressure flow meter for low viscosity liquids. The meter was designed for water flood and oil field service, but can be used wherever totalization is necessary. The meter is designed with wear resistant parts to provide trouble-free operation and long service life. The meter housing is made from stainless steel. Internal parts include stainless alloys and high strength engineering polymers, to provide good chemical and abrasion resistance. Maintenance kits are available to allow quick and easy in-line repair.

OPERATING PRINCIPLE

The measuring element of the multi-jet meter has an impeller mounted on a vertical spindle within a cylindrical measuring chamber. The fluid enters the measuring chamber through several tangential orifices around the lower circumference and leaves the measuring chamber through the upper set of tangential orifices. This movement causes the impeller to rotate at a speed directly proportional to the liquid flow rate. The rotating impeller is magnetically coupled to a mechanical register, and each impeller rotation is mechanically tabulated and displayed.



SPECIFICATIONS

Flow Range:

*5 to 685 BPD (0.15 to 20 GPM)

Accuracy:

±1% of reading

Pressure Rating:

1000 psi Maximum

Temperature:

Maximum of 200 °F (93 °C)

Not to be used on temperatures below the freezing point of liquid being measured

Connections:

1" NPT female

Materials of Construction:

Stainless Steel Body

Fiber-glass filled Ryton[®] rotary vane impeller

Gaskets:

Top seal cup & bottom measuring element

Neoprene or Viton[®] (optional)

*Continuous flow not to exceed 342 BPD (10 GPM)

OPERATING LIMITATIONS

Corrosion: Contact Blancett at (1.800.235.1638) to determine if operating liquid is compatible with materials of construction. Incompatible fluids could deteriorate internal parts, and cause the meter to read inaccurately.

Pulsation: Severe pulsation will effect accuracy, and shorten the life of the meter.

Vibration and Shock: Severe mechanical vibration may decrease service life of the meter.

Filtration: A strainer should be installed upstream of the meter capable of removing particles 0.020 inch (0.50mm)

INSTALLATION INSTRUCTIONS

Before installation, the flow meter should be checked internally for foreign material, and be sure that the impeller spins freely. Also, the flow lines should be purged of all debris.

The flow meter must be installed with the flow indication arrow, cast on the meter body, pointing in the correct direction of flow. The preferred mounting orientation is to have the meter installed in horizontal piping, with the register facing upward.

The liquid that is to be measured must be free from any large particles that may obstruct the rotation of the rotor. If particles are present, a mesh strainer should be installed upstream before operation of the flow meter. Some sand and small particles are permissible. A 30 x 30 mesh strainer is recommended (0.020 opening).

The preferred plumbing setup is to use a by-pass line (Figure 1) to allow meter inspection and repair without interrupting the flow of liquid.

Caution: *Open valves slowly to ensure that entrapped air does not cause meter to rotate at an excessive speed. Damage can be caused by striking an empty meter with high velocity flow of gas or liquid.*

This is true with any restriction in the flow line which may cause the liquid to flash. If necessary, air eliminators should be installed to ensure that the meter is not incorrectly measuring the entrained air or gas. Do not locate the flow meter close to a pump, because severe pulsation may negatively effect accuracy and flow meter life.

OPERATIONAL START-UP

The following practices should be observed when installing and starting the meter.

1. After meter installation, close the isolation valves, and open the by-pass valve. Flow liquid through the by-pass valve for sufficient time to eliminate any air or gas in the flow line.

Caution: *High velocity liquid, air or gas may damage the internal components.*

2. Open up stream isolating valve slowly to eliminate hydraulic shock while charging the meter with the liquid. Open the valve to full open.
3. Open downstream isolating valve to permit operation.
4. Close the by-pass valve to a full closed position.
5. Adjust the downstream valve to provide the required flow rate through the meter.

Note: *Downstream valve may be used as a control valve.*

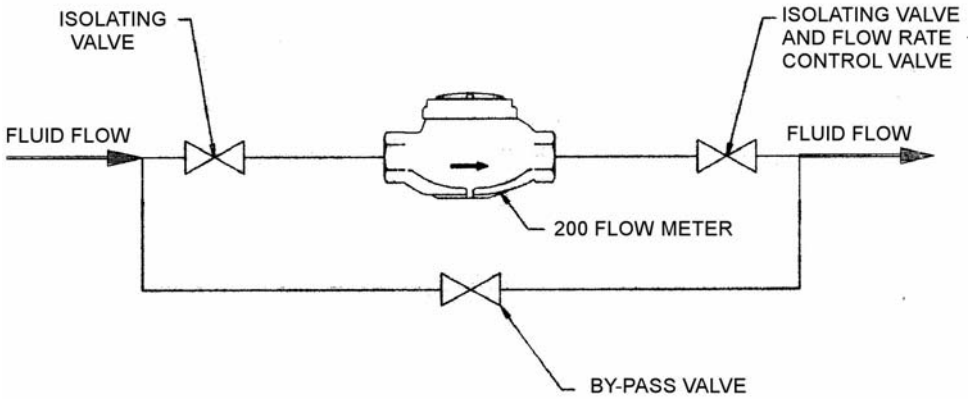


FIGURE 1 - PREFERRED METER INSTALLTION UTILIZING A BY-PASS VALVE

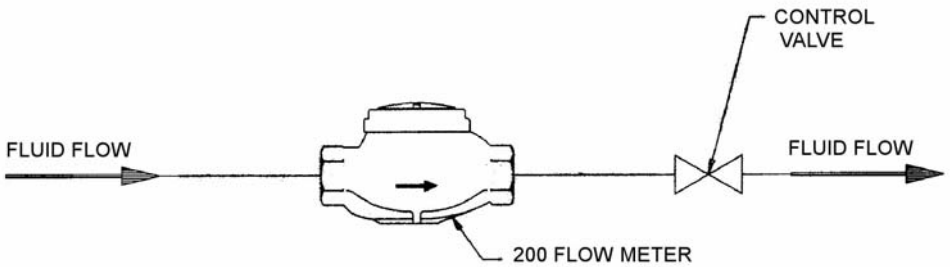


FIGURE 2 - TYPICAL METER INSTALLTION

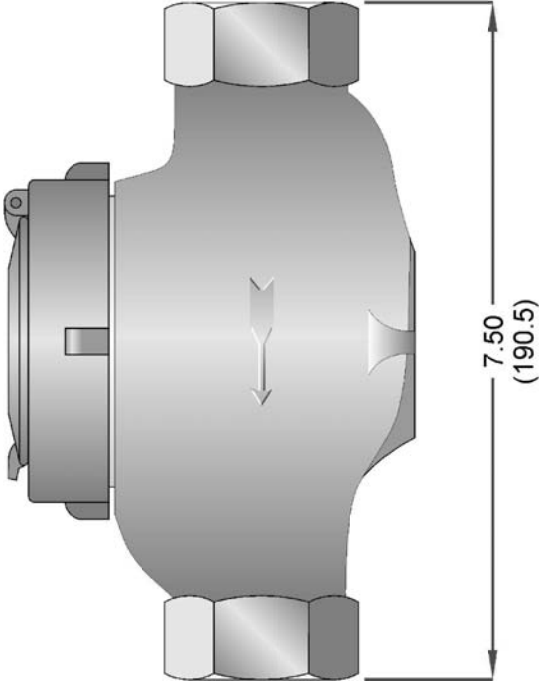
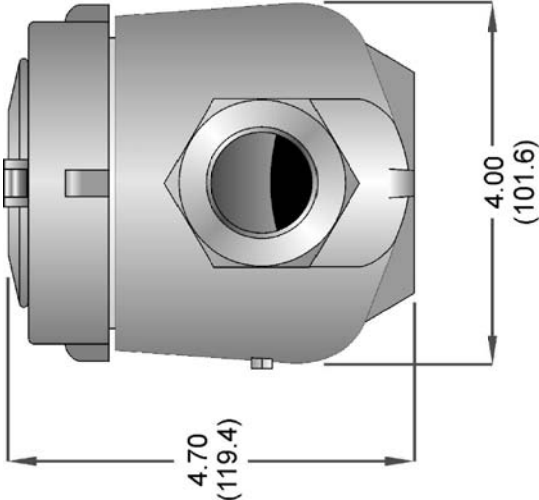
TROUBLE SHOOTING GUIDE

Trouble	Possible Cause	Remedy
No indication on register	<ul style="list-style-type: none">• Debris in measuring chamber• Broken magnet in magnetic drive• Broken gears or shaft in register assembly	<ul style="list-style-type: none">• Disassemble meter, clean out debris and inspect for worn parts• Repair or replace magnetic drive• Replace register
Low flow indication	<ul style="list-style-type: none">• Flow rate is too low• By-pass valves are leaking	<ul style="list-style-type: none">• Increase flow above 0.25 GPM• Close valves completely, repair or replace
High flow indication	<ul style="list-style-type: none">• Gas in Liquid• Debris covering a portion of the meter inlet	<ul style="list-style-type: none">• Install gas eliminator ahead of meter• Remove meter from line and clean out debris

REPAIR KIT INFORMATION

PART NUMBER	REPAIR KIT DESCRIPTION	GASKET MATERIAL
B250-250	Complete Repair Kit; 42 Gallon Barrels	Buna
B250-252	Complete Repair Kit; 42 Gallon Barrels	Viton®
B250-254	Complete Repair Kit; US Gallons	Buna
B250-256	Complete Repair Kit; US Gallons	Viton®
B250-258	Complete Repair Kit; Cubic Meters	Buna
B250-260	Complete Repair Kit; Cubic Meters	Viton®
B250-251	Repair Kit less Register; 42 Gallon Barrels	Buna
B250-253	Repair Kit less Register; 42 Gallon Barrels	Viton®
B250-255	Repair Kit less Register; US Gallons	Buna
B250-257	Repair Kit less Register; US Gallons	Viton®
B250-259	Repair Kit less Register; Cubic Meters	Buna
B250-261	Repair Kit less Register; Cubic Meters	Viton®

DIMENSIONS



STATEMENT OF WARRANTY

Blancett Flow Meters, Division of Racine Federated, Inc. warrants to the end purchaser, for a period of one year from the date of shipment from the factory, that all flow meters manufactured by it are free from defects in materials and workmanship. This Warranty does not cover products that have been damaged due to defects caused by misapplication, abuse, lack of maintenance, modified or improper installation. Blancett's obligation under this warranty is limited to the repair or replacement of a defective product, at no charge to the end purchase, if the product is inspected by Blancett and found to be defective. Repair or replacement is at Blancett's discretion. A return goods authorization (RGA) number must be obtained from Blancett before any product may be returned for warranty repair or replacement. The product must be thoroughly cleaned and any process chemicals removed before it will be accepted for return.

The purchaser must determine the applicability of the product for its desired use and assumes all risks in connection therewith. Blancett assumes no responsibility or liability for any omissions or errors in connection with the use of its products. Blancett will under no circumstances be liable for any incidental, consequential, contingent or special damages or loss to any person or property arising out of the failure of any product, component or accessory.

All expressed or implied warranties, including **the implied warranty of merchantability and the implied warranty of fitness for a particular purpose or application are expressly disclaimed** and shall not apply to any products sold or services rendered by Blancett.

The above warranty supersedes and is in lieu of all other warranties, either expressed or implied and all other obligations or liabilities. No agent or representative has any authority to alter the terms of this warranty in any way.



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