

Blancett®

MODEL 200 MULTI-JET FLOW METER

- For Water Applications -

INSTALLATION & INSTRUCTION MANUAL



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NOTE: *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 is a rugged low-priced flow meter specifically designed for low flow capacity waterflood projects. The multi-jet impeller provides accurate long-term flow measurement and accumulative volumetric totals of high pressure floodwater. With a minimal number of moving parts, the Model 200 provides dependable operation with low maintenance.

OPERATING PRINCIPLE

The Model 200 features a radial vaned impeller, mounted on a vertical spindle within a cylindrical measuring chamber. Fluid entering the meter passes through the lower measuring chamber through several tangential orifices located around the cylinder. The flowing water causes the impeller blades to rotate at a speed directly proportional to flow rate. The rotating impeller is magnetically coupled to a mechanical register, and each impeller rotation is mechanically tabulated and displayed.

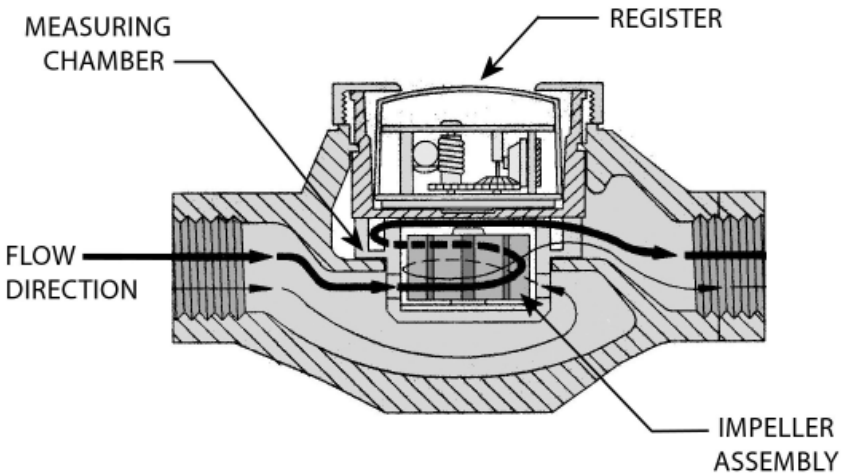


Figure 1
Operating Principle

SPECIFICATIONS

FLOW RANGE: 5 to 685 BPD (0.15 to 20 GPM)
Continuous flow not to exceed 342 BPD (10 GPM)

MATERIALS of CONSTRUCTION:

Body: Stainless Steel

Rotary Vane Impeller: Fiber-glass filled Ryton®

Gaskets: Top seal cup & bottom measuring element
Neoprene or optional Viton®

Connections: 1" NPT female

OPERATING LIMITATIONS:

Temperature: +200 °F (+93 °C) maximum
The meter should not be subjected to temperatures below the freezing point of the metered liquid.

Pressure: 1,000 psi maximum

Accuracy: ±1.0% of reading

Repeatability: ±0.1%

Corrosion: All Blancett Model 200 meters are constructed of stainless steel and tungsten carbide. The operator must ensure that the operating fluid is compatible with these materials. Incompatible fluids can cause deterioration of internal components and cause a reduction in meter accuracy.

Pulsation and

Vibration: Severe pulsation and mechanical vibration will affect accuracy and shorten the life of the meter.

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

INSTALLATION INSTRUCTIONS

Prior to installation, the flow meter should be checked internally for foreign material and to ensure the impeller spins freely. Fluid lines should also be checked and cleared of all debris.

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

The liquid being measured should be free of any large particles that may obstruct rotation of the impeller. 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 × 30 (0.020 opening) mesh strainer is recommended.

The preferred plumbing setup is one containing a by-pass line that allows meter inspection and repair without interrupting flow. If a by-pass line is not utilized, it is important that all control valves be located downstream of the flow meter. (See **Figures 3 and 4** on page 6.)

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 a high velocity flow of gas or liquid.*

This is true with any restriction in the flow line that may cause the liquid to flash. If necessary, air eliminators should be installed to ensure that the meter is not incorrectly measuring 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.

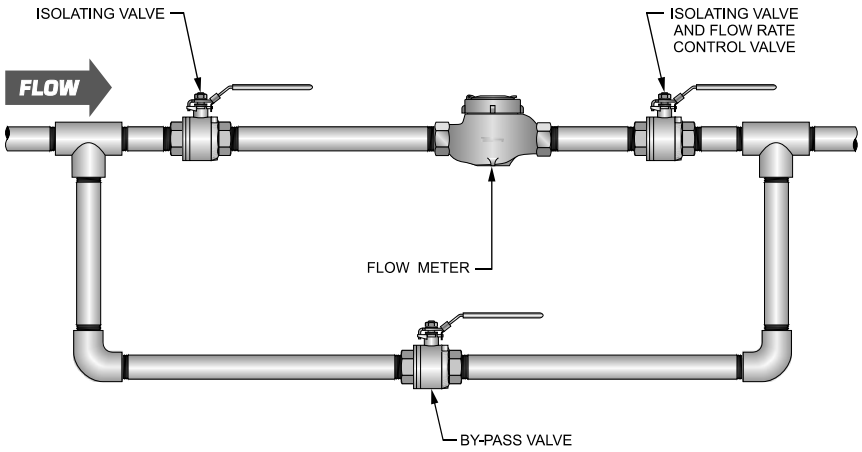


Figure 3
Meter installation utilizing a by-pass line

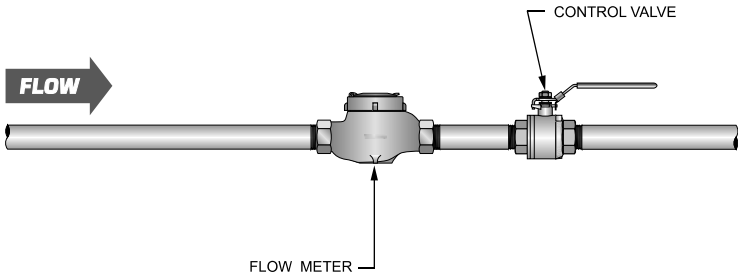


Figure 4
Meter installation without utilizing a by-pass line

OPERATIONAL START-UP

The following steps should be followed when installing and starting the meter.

WARNING: *Make sure that fluid flow has been shut off and pressure in the line released before attempting to install the meter in an existing system.*

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: *Damage can be caused by striking an empty meter with a high velocity flow stream.*

2. Open upstream 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 meter to operate.
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: The downstream valve may be used as a control valve.

TROUBLESHOOTING GUIDE

Trouble	Possible Cause	Remedy
No indication on register	<ul style="list-style-type: none">• Debris in measuring chamber • Broken gears or shaft in register assembly	<ul style="list-style-type: none">• Disassemble meter, clean out debris and inspect for worn parts• 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®

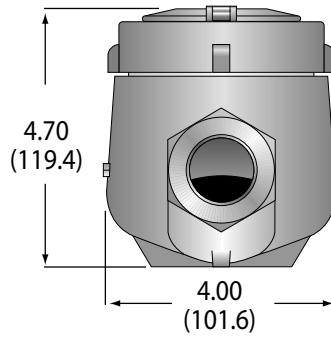
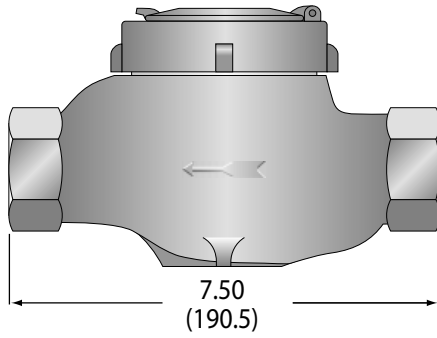


Figure 5
Dimensions

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 purchaser, 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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Printed in USA
Form No. B190-001 04/10