

QUIKSERT™ FLOW METER

OPERATION & INSTALLATION MANUAL



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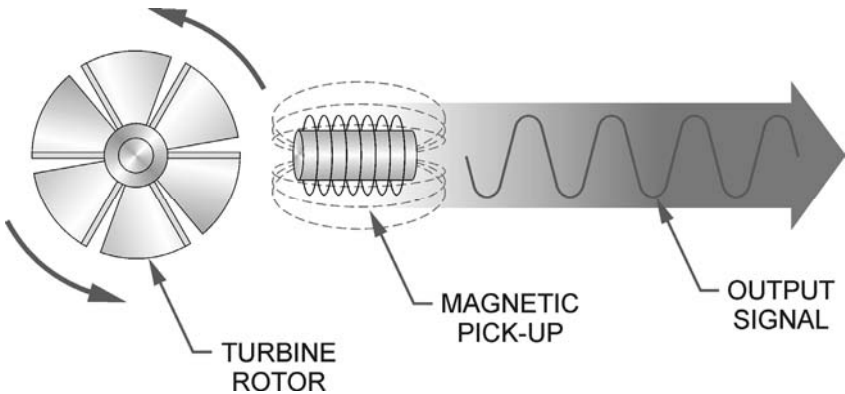
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***Note:** Blancett reserves the right to make any changes or improvements to the product described in this manual at any time without notice.*

INTRODUCTION

The QuikSert™ turbine flow meter is designed with wear resistant moving parts to provide trouble free operation and long service life. The Quiksert™ Meter Repair Kit is designed for easy field service of a damaged flow meter, rather than replacing the entire flow meter (see Appendix C for repair kit information). Repair parts are constructed of stainless steel alloy and tungsten carbide.

Fluid moving through the turbine flow meter causes the rotor to turn at a speed proportional to the flow rate. The rotor blade cuts the magnetic field of the magnetic pick-up, which in turn generates a frequency output signal that is directly proportional to the speed. The signal is used to represent flow rate and/or totalization of fluid passing through the turbine flow meter and is always expressed as the number of electric pulses that the meter produces per US gallon. This value is constant over each flow meter's range and is unique to the meter.



SPECIFICATIONS

Temperature:

-150 °F to 350 °F (-101 °C to 177 °C)

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

Accuracy:

1% of reading

Repeatability:

0.1%

Pressure:

Varies based on class of ANSI flanges used for mounting. See table below

Note: Pressure in excess of allowable rating may cause the housing to burst and cause serious personal injury.

FLANGE RATING (ANSI)	150#	300#	600#	900#	1500#
Working Pressure (psi)	285	740	1480	2220	3705
Working Pressure (Mpa)	1.97	5.10	10.20	15.31	25.55
*Test Pressure (psi)	427.5	1110	2220	3330	5557.5
*Test pressure (Mpa)	2.95	7.65	15.31	22.96	38.32

Meter Construction:

Internal Parts: Stainless Steel; Tungsten Carbide

Note: Incompatible fluids will deteriorate internal parts, and cause the meter to read inaccurately.

Pulsation:

Severe pulsation will affect accuracy and shorten the life of the meter

Vibration and Shock:

Severe mechanical vibration may decrease service life of the meter

Filtration:

Install a strainer upstream of meter if small particles are present

ILLUSTRATIONS

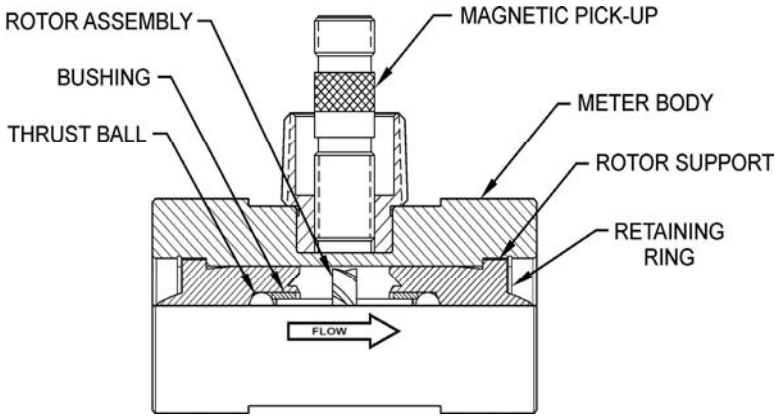


FIGURE 1 - Models B131-038 through B131-100

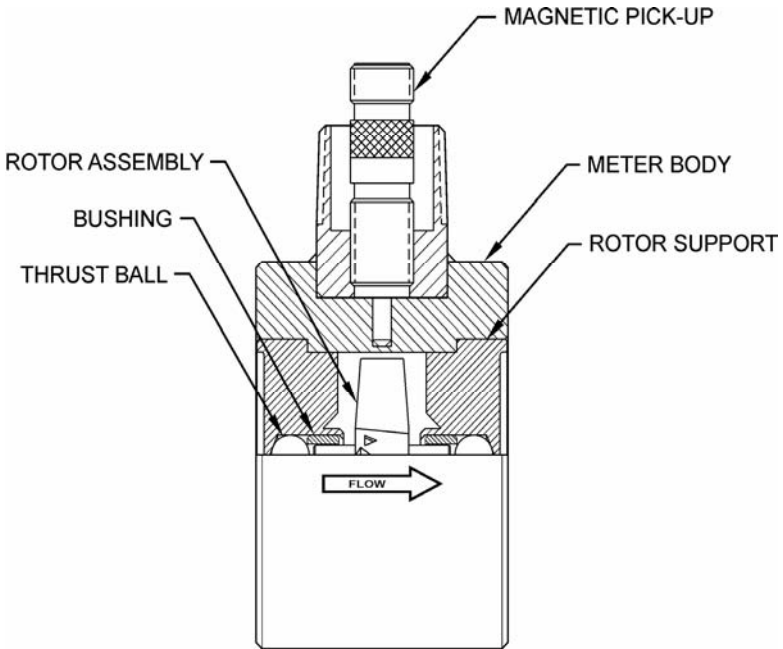


FIGURE 2 - Models B132-050 through B139-900

INSTALLATION INSTRUCTIONS

Before installation, the flow meter should be checked internally for foreign material and to be sure that the rotor spins freely. Fluid lines should also be cleared of all debris. The flow meter must be installed with the flow indication arrow, etched on the exterior of 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 pick-up facing upward. However, the meter will function in any position.

The liquid that is to be measured must be free from any large particles that may obstruct rotation of the rotor. If particles are present, a mesh strainer should be installed upstream before operation of the flow meter (See Table 1).

PART NUMBER	STRAINER MESH	CLEARANCE
B131-038	60	.0092
B131-050	60	.0092
B131-075	60	.0092
B131-088	60	.0092
B131-100	60	.0092
B132-050	60	.0092
B131-075	60	.0092
B132-088	60	.0092
B132-100	40	.0092
B132-150	20	.0340
B132-200	20	.0650
B133-300	10	.0900
B134-400	10	.0650
B136-600	4	.1875
B138-800	4	.0900
B139-900	4	.0900

TABLE 1

The preferred plumbing setup is one containing a by-pass line (Fig. 3) 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 down-stream of the flow meter (Fig. 4).

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

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.

It is recommended that a minimum length, equal to 10 (10) pipe diameters of straight pipe, be installed on the up-stream side and five (5) diameters on the down-stream side of the flow meter. Otherwise meter accuracy may be affected. Piping should be the same size as the flange size.

Do not locate the flow meter or connection cable close electronic motors, transforming, sparking devices, high voltage lines, or place connecting cable in conduit with wires furnishing power for such devices. These devices can induce false signals in the flow meter coil or cable, causing the meter to read inaccurately.

If problems arise with the flow meter and monitor consult Appendix A (Trouble Shooting Guide). If further problems arise, consult factory. Turbine Meter Repair Kits are also available, see Appendix C. If the internal components of the turbine flow meter are damaged beyond repair, these repair kits are available. Information pertaining the turbine meter repair kits are referenced in Appendix C.

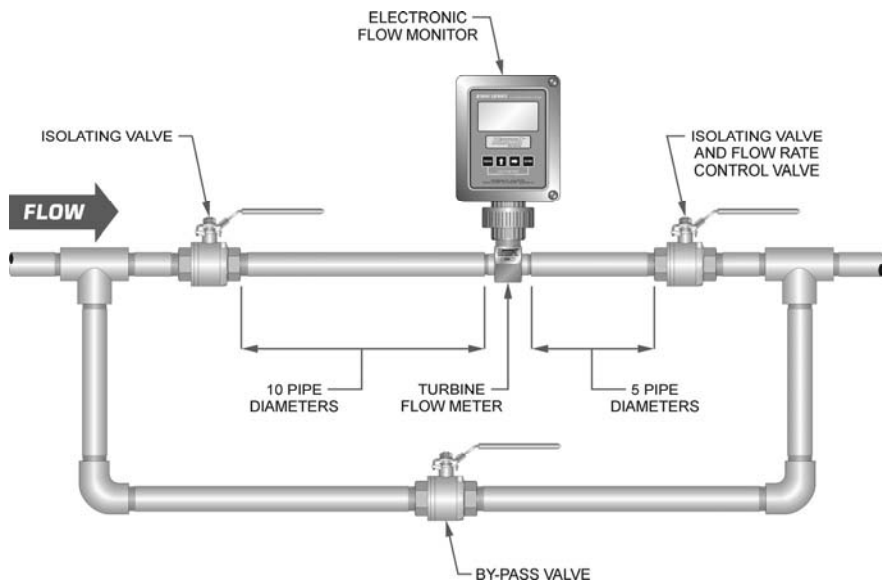


FIGURE 3 - Meter installation utilizing a bypass line

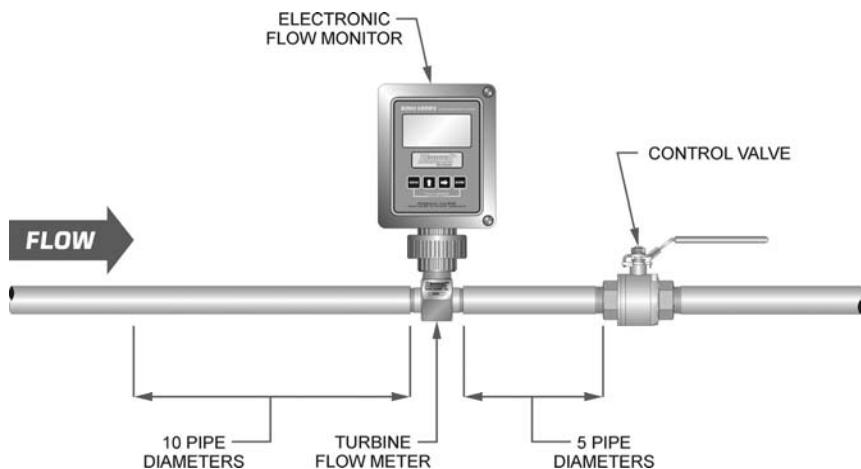


FIGURE 4 - Meter installation without utilizing a bypass line.

OPERATIONAL STARTUP

The following practices should be observed 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: *High velocity air or gas may damage the internal components of the meter.*

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 down-stream isolating valve to permit meter to operate.
4. Close the bypass valve to a full 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.

CALIBRATION

The meter is calibrated on water at the factory and tagged with a K-Factor (pulses per US Gallon). Also all attached electronics have been calibrated to match the flow meter's K-Factor. For maximum accuracy, the meter should be calibrated with the actual fluid being measured. The QuikSert™ meter can be recalibrated by any conventional meter proving processes used to calibrate standard meters.

APPENDIX A

TROUBLE SHOOTING GUIDE

Trouble	Possible Cause	Remedy
Meter indicates higher than actual rate	<ul style="list-style-type: none"> • Cavitation • Debris on rotor support • Build up of foreign material on meter bore • Gas in liquid 	<ul style="list-style-type: none"> • Increase back pressure • Clean meter • Clean meter • Install gas eliminator ahead of meter
Meter indicates lower than actual flow rate	<ul style="list-style-type: none"> • Debris on rotor • Worn bearing • Viscosity higher than calibrated 	<ul style="list-style-type: none"> • Clean meter and add filter • Clean meter and add filter • Recalibrate monitor
Erratic system indication, meter alone works well (remote monitor application only)	Ground loop in shielding	Ground shield one place only. Look for internal electronic instrument ground. Reroute cables away from electrical noise
Indicator shows flow when shut off	Mechanical vibration causes rotor to oscillate without turning	Isolate meter
No flow indication. Full or partial open position	Fluid shock, full flow into dry meter or impact caused bearing separation or broken rotor shaft	Rebuild meter with repair kit and recalibrate monitor. Move to location where monitor is full on start-up or add downstream flow control valve
Erratic indication at low flow, good indication at high flow	Rotor has foreign material wrapped around it	Clean meter and add filter
No flow indication	Faulty pick-up	Replace pick-up
System works perfect, except indicates lower flow over entire range	Bypass flow, leak	Repair or replace bypass valves, or faulty solenoid valves
Meter indicating high flow, upstream piping at meter smaller than meter bore	Fluid jet impingement on rotor	Change piping
Opposite effects of above	Viscosity lower than calibrated	Change temperature, change fluid or recalibrate meter

APPENDIX B

PART NUMBER INFORMATION

Part Number*	Meter Bore Size x Line Size	Flow Ranges		
		GPM	BPD	M ³ /D
B131-038	3/8" x 1"	0.6 - 3	20 - 100	3.3 - 16
B131-050	1/2" x 1"	0.75 - 7.5	25 - 250	4.1 - 41
B131-075	3/4" x 1"	2 - 15	68 - 515	10.9 - 81.75
B131-088	7/8" x 1"	3 - 30	100 - 1,000	16 - 160
B131-100	1" x 1"	5 - 50	170 - 1,700	27.25 - 272.5
B132-050	1/2" x 2"	0.75 - 7.5	25 - 250	4.1 - 41
B132-075	3/4" x 2"	2 - 15	68 - 515	10.9 - 81.75
B132-088	7/8" x 2"	3 - 30	100 - 1,000	16 - 160
B132-100	1" x 2"	5 - 50	170 - 1,700	27.25 - 272.5
B132-150	1-1/2" x 2"	15 - 180	515 - 6,000	82 - 981
B132-200	2" x 2"	40 - 400	1,300 - 13,000	218 - 2,180
B133-300	3" x 3"	60 - 600	2,100 - 21,000	327 - 3,270
B134-400	4" x 4"	100 - 1,200	3,400 - 41,000	545 - 6,540
B136-600	6" x 6"	200 - 2,500	6,800 - 86,000	1,090 - 13,626
B138-800	8" x 8"	350 - 3,500	12,000 - 120,000	1,363 - 19,076
B139-900	10" x 10"	500 - 5,000	17,000 - 171,000	2,725 - 27,252

APPENDIX C

REPAIR KIT INFORMATION

Part Number*	Recommended Strainer	Approx. K-Factor pulses/gal.	Maximum Pressure Drop (psi)	Dimensions	Repair Kit Part Number
	Mesh			Diameter x Length (in)	
B131-038	60	18,000	3.75	2 x 4	B253-102
B131-050	60	13,000	6.5	2 x 4	B253-105
B131-075	60	3,300	18	2 x 4	B253-108
B131-088	60	3,100	20	2 x 4	B253-109
B131-100	60	870	20	2 x 4	B253-112
B132-050	60	13,000	12	3.62 x 2.5	B253-205
B132-075	60	3,300	18	3.62 x 2.5	B253-208
B132-088	60	3,100	20	3.62 x 2.5	B253-209
B132-100	40	870	20	3.62 x 2.5	B253-212
B132-150	20	330	16	3.62 x 2.5	B253-216
B132-200	20	52	9	3.62 x 2.5	B253-220
B133-300	10	57	10	5 x 4.25	B253-330
B134-400	10	29	10	6.18 x 5	B253-440
B136-600	4	7	10	8.5 x 5.75	B253-660
B138-800	4	3	10	10.62 x 6.25	B253-880
B139-900	4	1.6	10	12.75 x 6.75	B253-990

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 abnormal use, 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.

NOTES



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