

X-6010-20
Revision 01

Series 10 and Vertical Dial Register

Installation and Operation Manual



Brodie Meter Co., LLC

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Manufacturers of BiRotors, Oval Gear Meters, and Control Valves

Essential Instructions

Brodie Meter Co., LLC designs, manufactures and tests its products to meet many national and international standards. Because these instruments are sophisticated technical products, you must properly install, use and maintain them to ensure they continue to operate within their normal specifications. The following instructions must be adhered to and integrated into your safety program when installing, using and maintaining Brodie Meter Co., LLC products.

- Read all instructions prior to installing, operating, and servicing the product. If this instruction manual is not the correct manual, telephone 1-912-489-0200 and the requested manual will be provided. Save this instruction manual for future reference.
- If you do not understand any of the instructions, contact your Brodie representative for clarification.
- Follow all warnings, cautions, and instructions marked on and supplied with the product.
- Inform and educate your personnel in the proper installation, operation, and maintenance of the product.
- Install your equipment as specified in the installation instructions of the appropriate instruction manual and per applicable local and national codes. Connect all products to the proper electrical and pressure sources.
- To ensure proper performance, use qualified personnel to install, operate, update, program, and maintain the product.
- When replacement parts are required, ensure that qualified people use replacement parts specified by the manufacturer. Unauthorized parts and procedures can affect the product's performance and place the safe operation of your process at risk. Look-alike substitutions may result in fire, electrical hazards, or improper operation.
- Ensure that all equipment doors are closed and protective covers are in place, except when maintenance is being performed by qualified persons, to prevent electrical shock and personal injury.
- Use of this equipment for any purpose other than its intended purpose may result in property damage and/or serious personal injury or death.

Notice

Brodie Meter Co., LLC ("Brodie") shall not be liable for technical or editorial errors in this manual or omissions from this manual. **Brodie makes no warranties, express or implied, including the implied warranties of merchantability and fitness for a particular purpose with respect to this manual and, in no event, shall Brodie be liable for any special or consequential damages including, but not limited to, loss of production, loss of profits, etc.**

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Brodie does not assume responsibility for the selection, use or maintenance of any product. Responsibility for proper selection, use and maintenance of any Brodie product remains solely with the purchaser and end-user.

**Brodie Meter Co., LLC
Statesboro, Georgia, USA**

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Warranty

1. LIMITED WARRANTY: Subject to the limitations contained in Section 2 herein and except as otherwise expressly provided herein, Brodie Meter Co., LLC (“Brodie”) warrants that the firmware will execute the programming instructions provided by Brodie, and that the Goods-manufactured or Services provided by Brodie will be free from defects in materials or workmanship under normal use and care until the expiration of the applicable warranty period. Goods are warranted for twelve (12) months from the date of initial installation or eighteen (18) months from the date of shipment by Brodie, whichever period expires first. Consumables and Services are warranted for a period of 90 days from the date of shipment or completion of the Services. Products purchased by Brodie from a third party for resale to Buyer (“Resale Products”) shall carry only the warranty extended by the original manufacturer. Buyer agrees that Brodie has no liability for Resale Products beyond making a reasonable commercial effort to arrange for procurement and shipping of the Resale Products. If Buyer discovers any warranty defects and notifies Brodie thereof in writing during the applicable warranty period, Brodie shall, at its option, promptly correct any errors that are found by Brodie in the firmware or Services, or repair or replace F.O.B. point of manufacture that portion of the Goods or firmware found by Brodie to be defective, or refund the purchase price of the defective portion of the Goods/Services. All replacements or repairs necessitated by inadequate maintenance, normal wear and usage, unsuitable power sources, unsuitable environmental conditions, accident, misuse, improper installation, modification, repair, storage or handling, or any other cause not the fault of Brodie are not covered by this limited warranty, and shall be at Buyer’s expense. Brodie shall not be obligated to pay any costs or charges incurred by Buyer or any other party except as may be agreed upon in writing in advance by an authorized Brodie representative. All costs of dismantling, reinstallation and freight and the time and expenses of Brodie’s personnel for site travel and diagnosis under this warranty clause shall be borne by Buyer unless accepted in writing by Brodie. Goods repaired and parts replaced during the warranty period shall be in warranty for the remainder of the original warranty period or ninety (90) days, whichever is longer. This limited warranty is the only warranty made by Brodie and can be amended only in a writing signed by an authorized representative of Brodie. Except as otherwise expressly provided in the Agreement, THERE ARE NO REPRESENTATIONS OR WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, AS TO MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE, OR ANY OTHER MATTER WITH RESPECT TO ANY OF THE GOODS OR SERVICES. **It is understood that - corrosion or erosion of materials is not covered by our guarantee.**

2. Limitation Of Remedy And Liability: Brodie Shall Not Be Liable For Damages Caused By Delay In Performance. The Sole And Exclusive Remedy For Breach Of Warranty Hereunder Shall Be Limited To Repair, Correction, Replacement Or Refund Of Purchase Price Under The Limited Warranty Clause In Section 1 Herein. In No Event, Regardless Of The Form Of The Claim Or Cause Of Action (Whether Based In Contract, Infringement, Negligence, Strict Liability, Other Tort Or Otherwise), Shall Brodie’s Liability To Buyer And/Or Its Customers Exceed The Price To Buyer Of The Specific Goods Manufactured Or Services Provided By Brodie Giving Rise To The Claim Or Cause Of Action. Buyer Agrees That In No Event Shall Brodie’s Liability To Buyer And/Or Its Customers Extend To Include Incidental, Consequential Or Punitive Damages. The Term “Consequential Damages” Shall Include, But Not Be Limited To, Loss Of Anticipated Profits, Loss Of Use, Loss Of Revenue And Cost Of Capital.

Table of Contents

- 1.0 Introduction 2**

- 2.0 Receipt of Shipment..... 2**

- 3.0 Installation and Maintenance 3**
 - 3.1 Mechanical Hook-up 3**
 - 3.2 Maintenance 3**

- 4.0 Spare and Replacement Parts 3**
 - Table 4.1 Face Plate-Series 10 and Vertical Dial Register 3**
 - Table 4.2 Standard Register Gear Assembly 3**
 - Figure 4.1 Series 10 and Vertical Dial Register Replacement Parts 4**

- 5.0 Warranty Claim Procedures 5**

- Appendix A - Customer Problem Report..... 7**

1.0 Introduction

This manual is designed to assist in the installation and operation of the Brodie Series 10 and Vertical Dial Register. To assure proper installation and start-up it is important to read this manual in its entirety.

The Brodie Series 10 and Vertical Dial Registers are designed to provide mechanical inventory totalization for most flowmeter requirements.

The Series 10 Counter is a horizontal, straight reading, non-reset totalizer that records the total volume passed through a flowmeter. It includes a 9-digit totalizer with sweep hand. Standard units are available to meet customer specifications measuring in 0.01, 0.1, 1, 10 or 100 units per revolution of the sweep hand.

The Vertical Dial Register is a vertical, straight-reading register much like the Series 10. It includes a 9-digit totalizer with sweep hand. Standard units are available measuring in 0.01, 0.1, 1, 10 or 100 units per revolution when supplied with one of the optional pulsers.

Both units, Series 10 and Vertical Dial Register, record in practically any unit of measure. Standard registrations include gallons, barrels, liters, pounds, kilograms, cubic meters, pounds x 10, dekaliters and metric tons.

2.0 Receipt of Shipment

When you receive your equipment, inspect the outside of the packing case for damage which may have incurred during shipping. **Damage incurred during shipment is the responsibility of the carrier and is not part of the factory warranty.** If the package is in good condition remove the envelope containing the packing list and carefully remove the equipment and all components included in the shipment from the packing case. Inspect for damaged or missing parts, referring to the packing list, and prior to discarding the packing material. If items are missing from your shipment, contact your sales representative. Your sales order number will be required.

If the packing case is damaged, notify the local carrier immediately. If the equipment must be returned to the factory for repair or replacement, a Returned Materials Report (RMR) must be included with the equipment or components. RMR forms may be obtained from your sales representative, from the Product Service Department, or from www.brodiemeter.com.

The equipment should be packaged securely for shipment. The original container or a solid wooden box should be used to protect the exterior of the equipment.

When packing the equipment or components for return to the factory, place the RMR and a copy of the packing list that was delivered with the equipment inside an envelope. Place the envelope inside the shipping container with the item being returned and reference the RMR number on the outside of the shipping container.

Equipment returned to the factory without the proper documentation will be returned to sender at their expense.

Ship the container to:
Brodie Meter Co., LLC
Product Service Department
19267 Hwy. 301 North
Statesboro, GA 30461
Phone: 912-489-0200
Fax: 912-489-0294
service@brodiemeter.com

3.0 Installation and Maintenance

This section contains specific instructions for receipt and installation of the Series 10 and Vertical Dial Register.

3.1 Mechanical Hook-up

Following inspection of the register assure that the sweep hand turns freely by rotating the input shaft at the base. Operation should be free with no binding.

The register should then be placed on the meter, or accessory from the meter. Assure that the output shaft coupling from the meter aligns with the input shaft of the register.

Proper mounting dictates that:

- A. A good alignment is secured.
- B. The register dial face is positioned to accommodate easy access reading.
- C. The register is zeroed in the no-flow state at the time of installation.

This is a non-reset register which requires its complete removal from the system for zeroing.

Before securing the register to the meter, assure positive zeroing such that the 9-digit totalizer indicates 8 zeros with the sweep hand at zero.

3.2 Maintenance

No routine maintenance, cleaning or lubricating is required on the Series 10 or Vertical Dial Register; however, should parts be damaged by extreme conditions replacement parts are available upon request.

4.0 Spare and Replacement Parts

This section contains the necessary replacement parts required to repair any standard unit that is covered in this manual. For items that are not listed or for additional information, consult factory.

Table 4.1 Face Plate-Series 10 and Vertical Dial Register

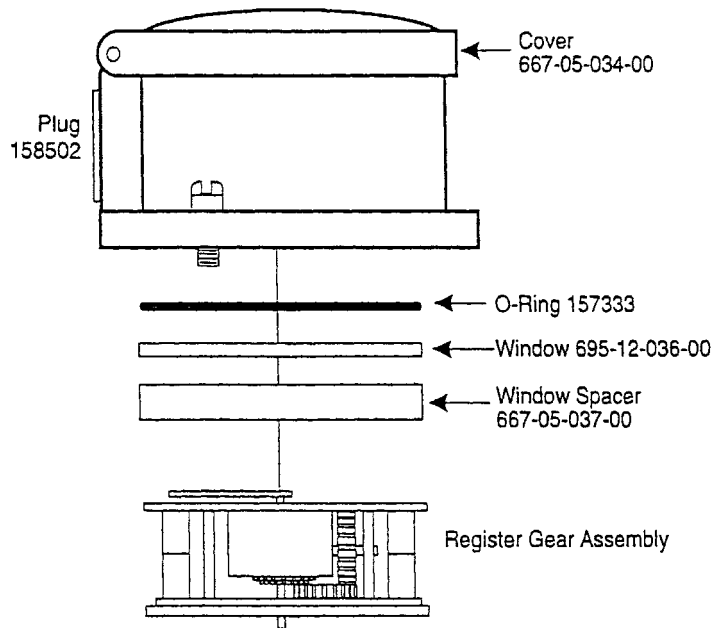
Units/Registration	Part Number
Barrels	CA-502Z-346-EHA
Liters	CA-502Z-347-EHA
Pounds	CA-502Z-348-EHA
Kilograms	CA-502Z-520-EHA
Cubic Meters	CA-502Z-521 -EHA
Pounds x 10	CA-502Z-522-EHA
Dekaliters	CA-502Z-589-EHA
Metric Tons	CA-502Z-599-EHA

Table 4.2 Standard Register Gear Assembly

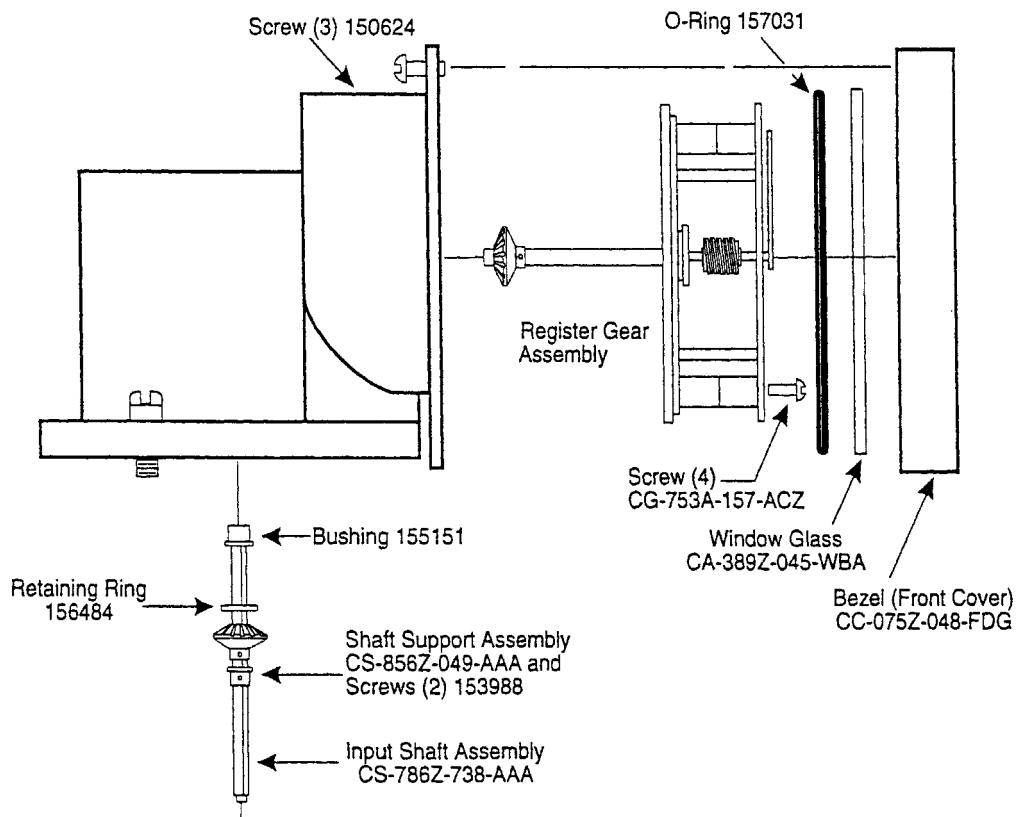
Units per Revolution	Part Number
1	667-05-900-01
10	667-05-900-02
100	667-05-900-03
0.1	667-05-900-04
0.01	667-05-900-05

Figure 4.1 Series 10 and Vertical Dial Register Replacement Parts

SERIES 10 REGISTER



VERTICAL DIAL REGISTER



5.0 Warranty Claim Procedures

To make a warranty claim, you, the Purchaser, must:

1. Provide Brodie with proof of the Date of Purchase and proof of the Date of Shipment of the product in question.
2. Return the product to Brodie within twelve (12) months of the date of original shipment of the product, or within eighteen (18) months of the date of original shipment of the product to destinations outside of the United States. The Purchaser must prepay any shipping charges. In addition, the Purchaser is responsible for insuring any product shipped for return, and assumes the risk of loss or damage of the product during shipment.
3. To obtain Warranty service or to locate the nearest Brodie office, sales, or service center call (912) 489-0200.
4. When contacting Brodie for product service, the purchaser is asked to provide information as indicated on the following page entitled "Customer Problem Report" (Appendix B).
5. For product returns from locations outside the United States, it will be necessary for you to obtain the import consignment address so that Brodie's customs broker can handle the importation with the U.S. Customs Service.
6. Brodie Meter Co., LLC offers both on call and contract maintenance service designed to afford single source responsibility for all its products.
7. Brodie reserves the right to make changes at any time to any product to improve its design and to insure the best available product.

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Appendix A - Customer Problem Report



Brodie Meter Co., LLC

19267 Highway 301 North (30461)
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Statesboro, GA 30459-0450

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Fax: (912) 489-0294
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Customer Problem Report

For faster service, complete this form and return it along with the affected equipment to customer service at the address indicated below.

Company Name: _____

Technical Contact: _____ Phone: _____

Repair PO#: _____ If Warranty, Unit S/N: _____

Invoice Address: _____

Shipping Address: _____

Return Shipping Method: _____

Equipment Model #: _____ S/N: _____ Failure Date: _____

Description of Problem: _____

What was happening at time of failure? _____

Additional Comments: _____

Report Prepared By: _____ Title: _____

If you require technical assistance, please contact the Product Service Department at:

Phone: (912) 489-0200

Fax: (912) 489-0294

service@brodiemeter.com

Reminder:

All items being returned must be packaged separately. A decontamination statement and the MSDS sheet(s) must be placed on the outside of the shipping container.

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