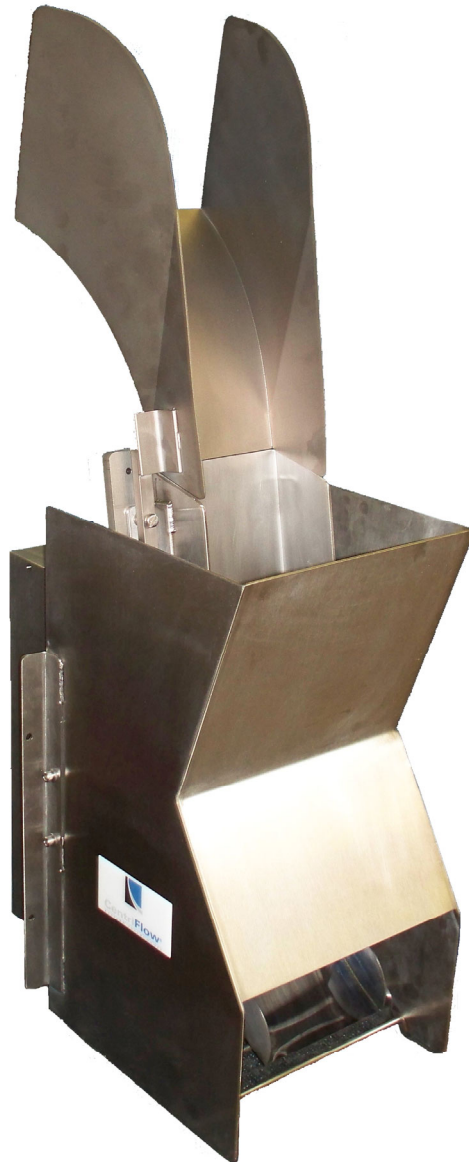




EASTERN INSTRUMENTS

CentriFlow® Meter

***CFL METER MODULE
INSTALLATION & OPERATION
MANUAL***



REV 11/23

ORIGINAL LANGUAGE

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TABLE OF CONTENTS

Safe Operation	3
Warnings and Cautions	3
Safety Placards	4
Installation Guidelines	5
Requirements.....	5
Special Requirements.....	5
Configurations	6
Type I Configuration	6
Type II Configuration.....	7
Mounting	8
Mounting Specification Drawings	9
Shipping Locks	10
Using the Shipping Locks.....	10
Grounding the CentriFlow Meter	11
Pulsed Air System (Optional)	12
Installation Directions	13
Transducer Replacement	14
Installing a Transducer	14
Overtravel and Counterweight Component Drawing	16
Flexure Replacement	17
Protecting the Transducer.	17
Removing the Meter from the Installation Point (Type I or II).	17
Preparing the Meter for Flexure Replacement.....	17
Replacing the Flexures.	18
Rebalancing and Mounting of the CentriFlow® Meter.....	19
Pan Arm Boot Replacement Procedure	20
Frequently Asked Questions	21
Certificate of Conformance	24

Metric dimensions are estimates and are provided throughout as reference only.



SAFETY

SAFE OPERATION

PLEASE READ BEFORE OPERATING THE CENTRIFLOW METER

- Only authorized personnel should operate the CentriFlow Meter. Untrained personnel present a hazard to themselves and the meter and improper operation will void the warranty.
- Check for damaged parts before operating the meter. Any damaged part should be properly repaired or replaced by trained personnel. Do not operate the meter if any component does not appear to be functioning correctly. Contact Eastern Instruments for assistance or for repair components.
- Use the appropriate Personal Protection Equipment as required for operating the meter within its installation location.
- The various surfaces of the CentriFlow Meter module may have sharp edges and have the potential to cause injury. Use the proper protection for your hands when servicing or maintaining your CentriFlow Meter
- The electrical panel (digital electronics) should be closed and the safety latch engaged at all times except during installation or service. At those times, only authorized personnel should have access to the electronics panel. When power is activated, AC voltage may be present throughout the panel. Therefore extreme caution is required.
- ◆ **DO NOT modify or alter this equipment in any way. If modifications are necessary, all such requests must be handled by Eastern Instruments. Any modification or alteration of any Eastern Instruments equipment could lead to personal injury and/or mechanical damage and will void the warranty.**

WARNINGS AND CAUTIONS

- Once power has been supplied to the CentriFlow Meter, it is always on and product may run through it at any time.
- Avoid entering or placing body parts within the meter's enclosure.
- Do not operate without proper training.
- Always wear proper PPE.
- NEVER service the meter while power is connected.



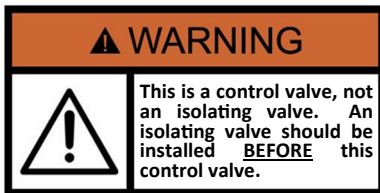
SAFETY PLACARDS

SOME OR ALL OF THESE WARNINGS MAY BE ON YOUR METER. BE AWARE OF THE POSSIBLE DANGERS PRESENT.



ELECTRICAL SERVICE

Electrical shock or electrocution is possible when servicing the electronics of any Eastern Instruments equipment. Be sure to disconnect power before conducting any repairs on the electronics.



PRODUCT FLOW

The Control Valve for the CentriFeeder is used only as a control valve and does not act as an isolation valve. A secondary isolation valve is recommended to be installed before the CentriFeeder's control valve in order to isolate the CentriFeeder from flow during maintenance or repairs.



PINCH POINTS

The control valve of the CentriFeeder can cause serious injury or amputation. Keep hands clear of the control valve at all times.



LIVE ELECTRICITY

Live electrical wires may be present. Please note that coming into contact with the live wires (AC Power) could cause electrical shock or electrocution.



Installation Guidelines

REQUIREMENTS

- The meter is to be used in a location where the product can be dropped from a fixed height such as a conveyor, or any type of feed system, which will give a reasonably constant, initial, vertical velocity. The design of the meter requires the product to contact the Tangential Plate and have some vertical drop.
- The meter should be installed so that it is level in two planes. Use the Bubble Level on top of the Seal Top to help (this is not applicable for meters that are installed at a 10° or 20° angle).
- The mass of the mount should be at least two times the mass of the meter.
- The meter should be mounted using the mount holes only. The mounting method should minimize vibration and movement and the Rear Access Panel should NOT be blocked by the chosen mounting mechanism.
- If the conveyor/feed system is wider than the meter Pan, guides are required to reduce the product stream to the width of the meter Pan. Conversely, if the conveyor/feed system is considerably less than the width of the meter Pan, a spreader is required to widen the product stream to the width of the meter Pan.
- The discharge chute that the product stream empties into after traveling through the meter must be free flowing, meaning that it does not allow product to build up and consequently contact the Pan of the meter.

SPECIAL REQUIREMENTS

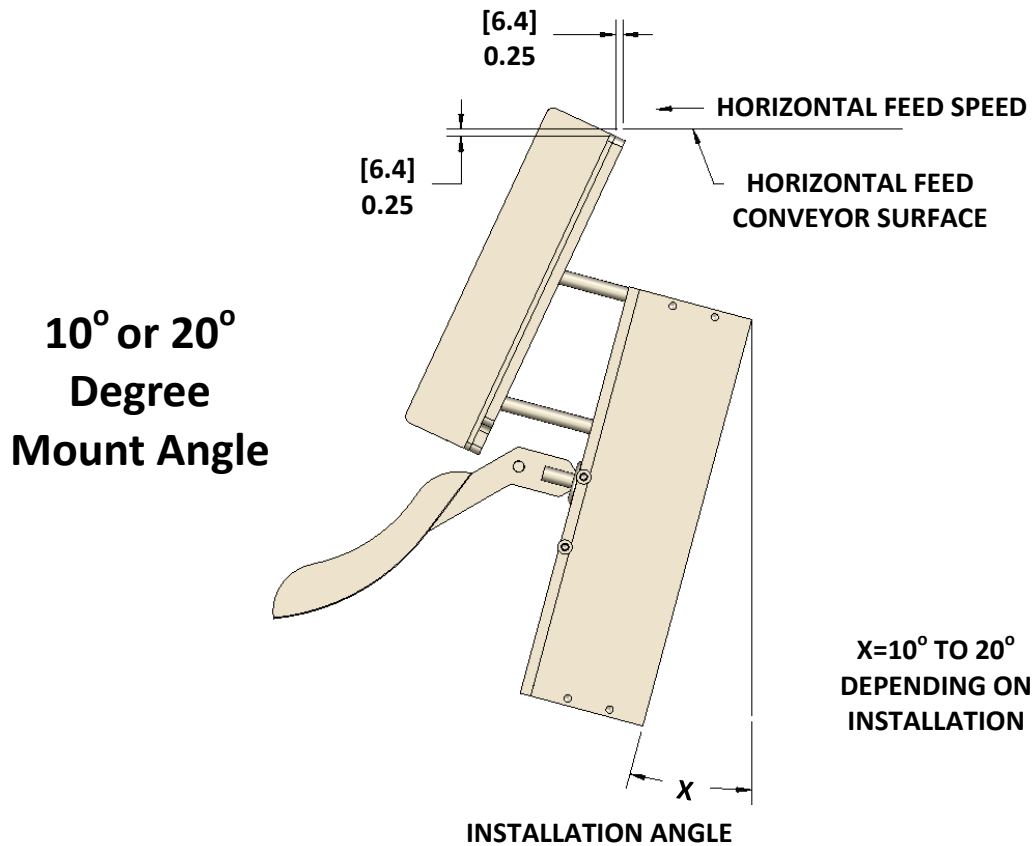
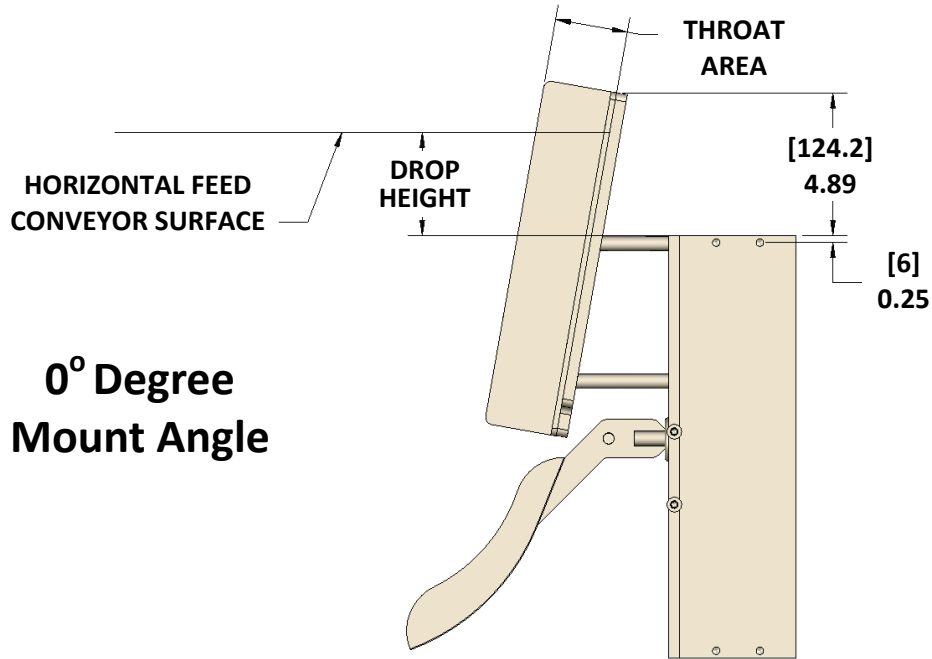
- The CentriFlow® Meter is balanced at a specific angle and should not be subject to vibration or movement.
- The Rear Access Panel should be on the meter at all times, unless you are working inside the meter. This is to keep all foreign materials out of the meter that could obstruct its movement or impair its functionality.
- Access to the meter's Rear Access Panel should be available at all times for service and commissioning.





Configurations

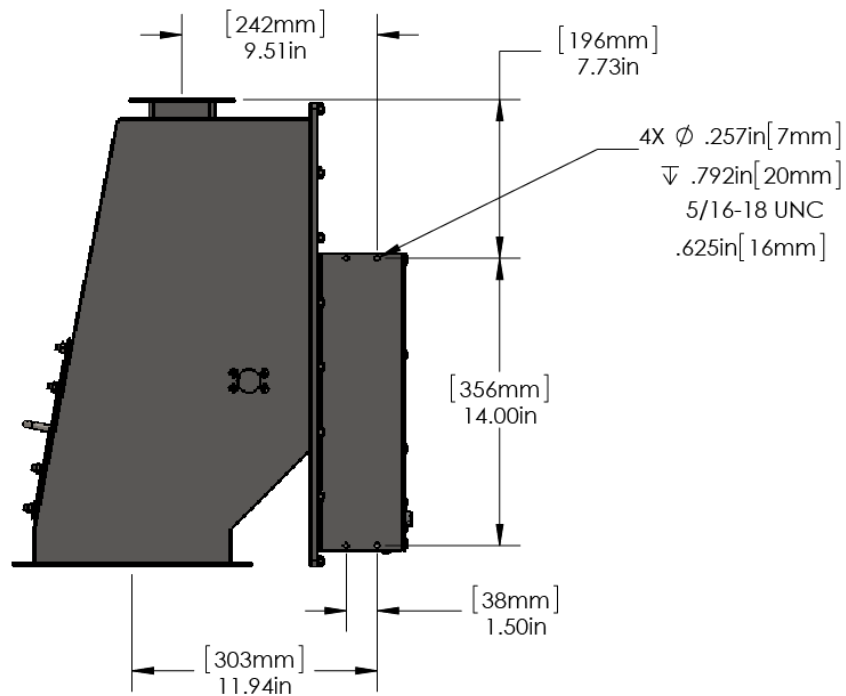
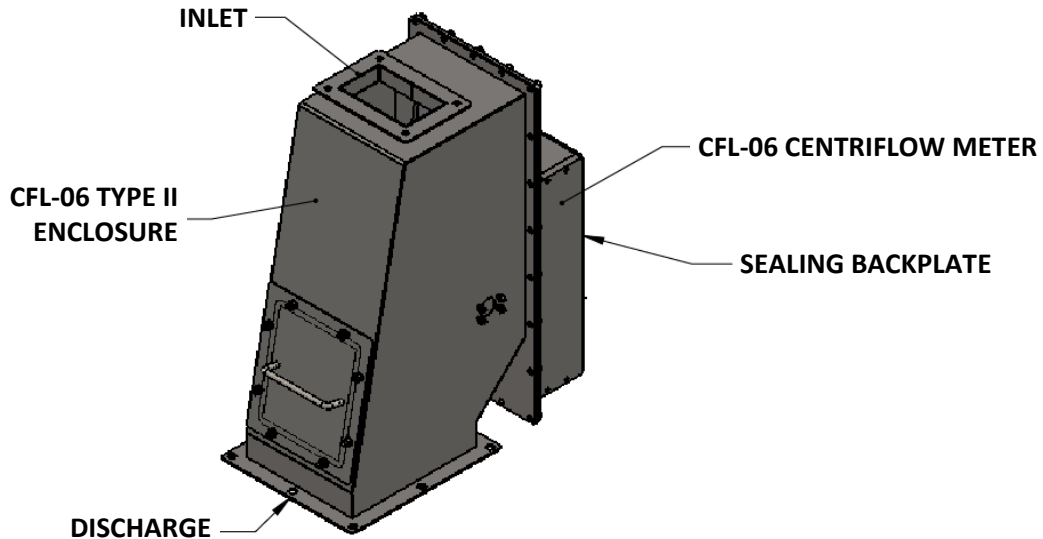
TYPE I CONFIGURATION





Configurations

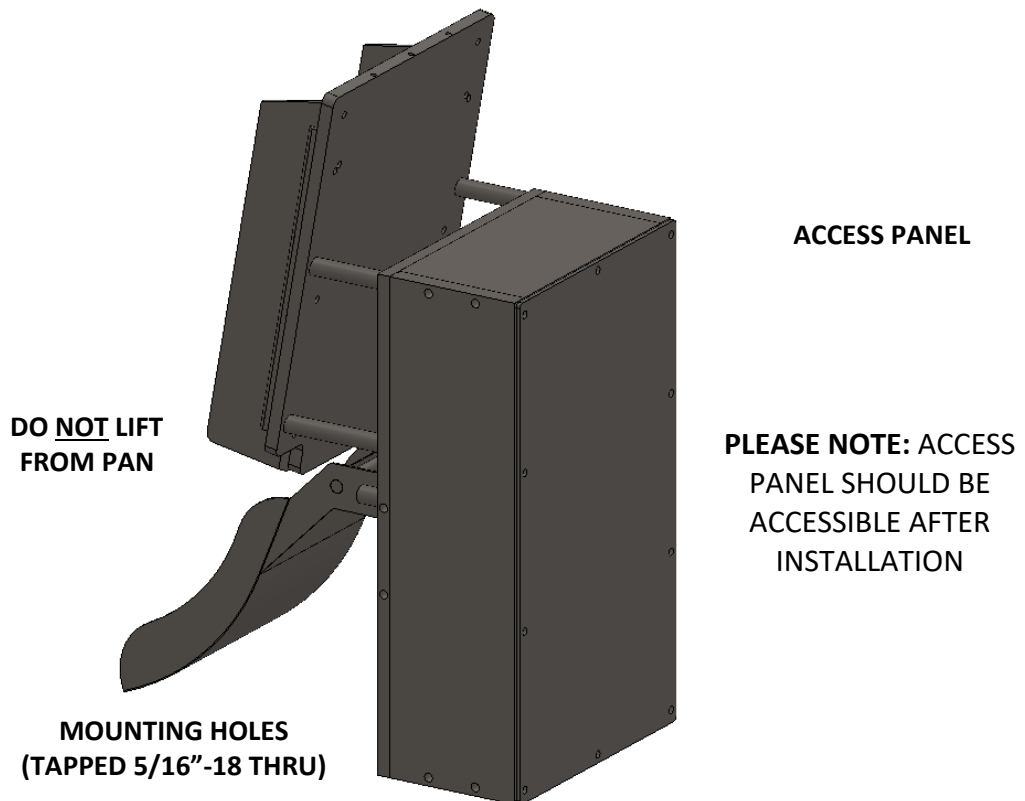
TYPE II CONFIGURATION





Mounting

When installing the CentriFlow® Meter, great care should be taken to not damage the Pan Section of the Module. This is the measurement section of the meter and should be handled with care. The Pan Section, although structurally strong, will not be able to withstand a direct side impact. Scratches or dents on the Pan's surface can cause the meter to function improperly or not at all by allowing the Pan to build up with product, resulting in output error.



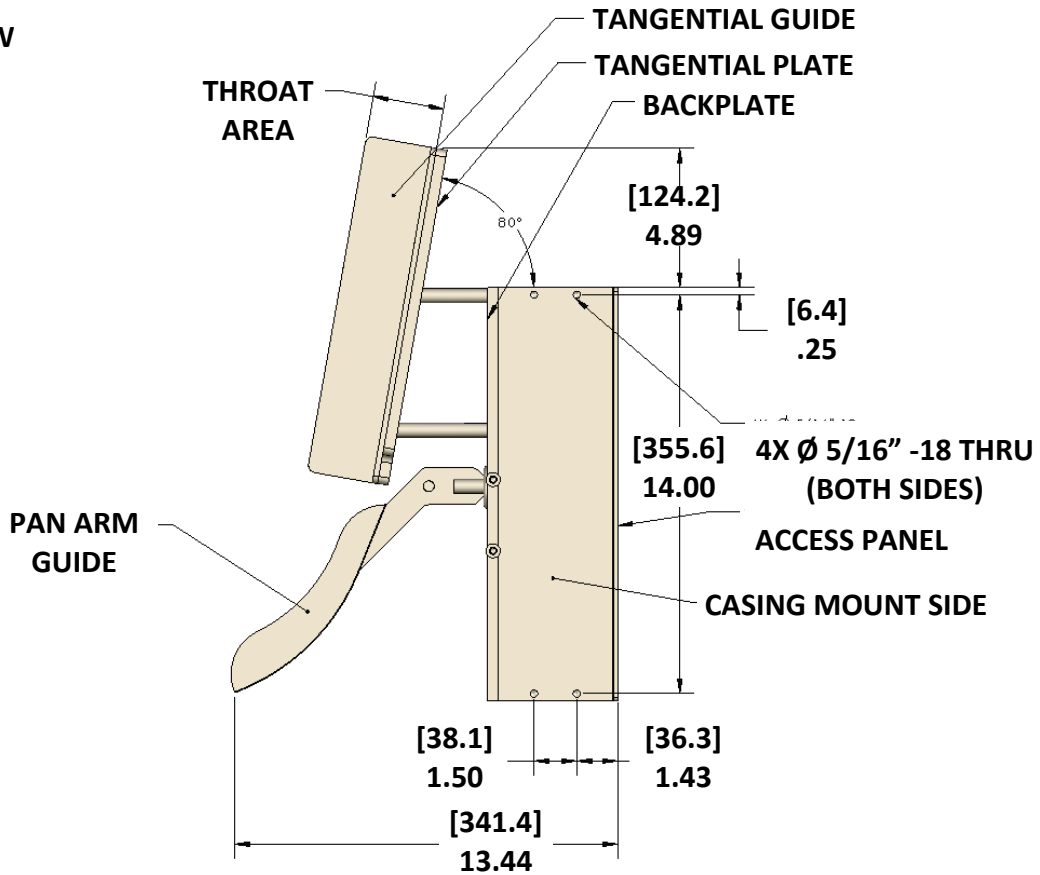
When Mounting the CentriFlow® Meter, it is important that the meter should be held by means of the Mounting Holes located on either sides of the Meter Module, as shown in the illustration above. These are a series of four 5/16"-18 tapped holes located on the side of the meter module. The mounting of the meter should be vibration free and as sturdy as possible to eliminate the possibility of misinterpreting any vibration as actual meter measurement. Eliminating vibration is particularly important when flow rates are low.

Please note that it is important that the conveyor/feed device not be in direct contact with the CentriFlow® Meter. Contact could add vibration, which could be misinterpreted as actual meter measurement. Also, it is suggested that there be minimal, if not zero, air disturbance around the Pan Section of the meter. Due to the sensitivity of the measurement, air disturbance could, again, be misinterpreted as actual meter measurement.

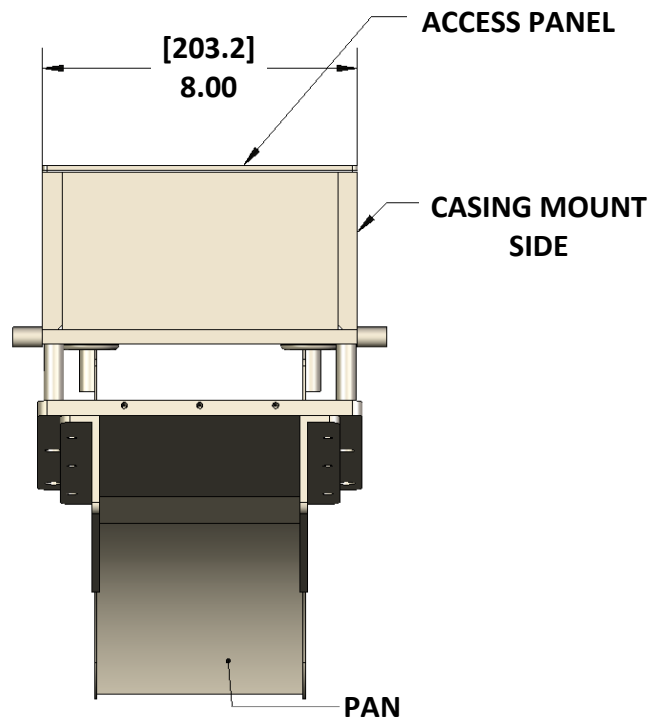


Mounting Specification Drawings

RIGHT VIEW

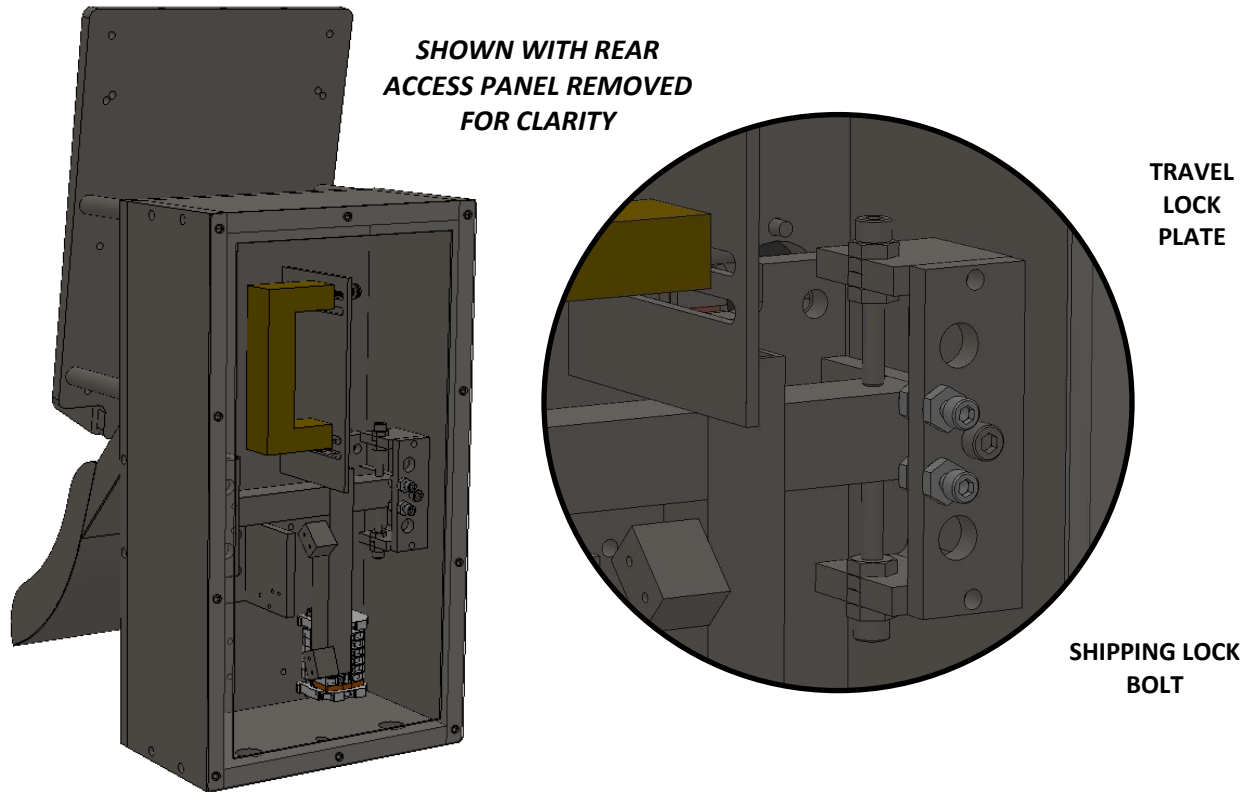


TOP VIEW





Shipping Locks



USING THE SHIPPING LOCKS

- Step 1.** Remove the Rear Access Panel to reveal the inside of the Meter Casing.
- Step 2.** Unscrew the Shipping Lock Bolt using a 3/16" hex key.
Take care not to drop the bolts or the Shipping Lock.
- Step 3.** Repeat for opposite side.
- Step 4.** Be sure to reinstall the Shipping Lock Bolt before working on or attempting to move the meter.



Grounding the CentriFlow Meter Module

A separate Earth Ground Wire (14 gauge) is required to be connected to the meter module. This ground wire is required for operator safety and for proper operation. This ground must be supplied from the main plant ground at the service entrance.

PLEASE BE SURE TO GROUND THE CENTRIFLOW METER MODULE TO AN EARTH GROUND!



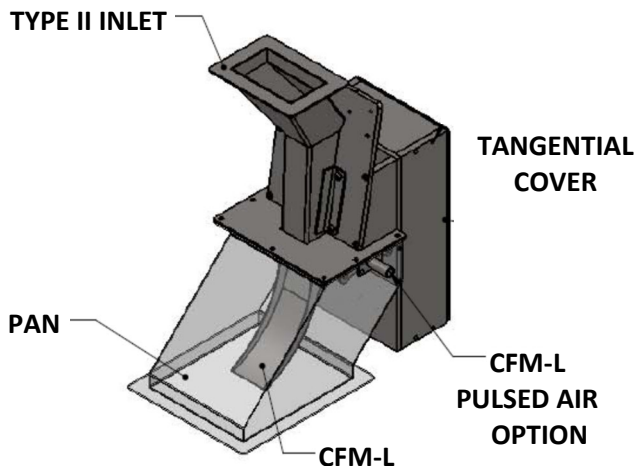


Pulsed Air System (Optional)

If the CentriFlow[®] Meter was shipped with the Pulsed Air option please continue with the following directions.

PURPOSE:

The Pulsed Air System was designed to deliver a pulsed blast of air to the area in front of the Backplate and behind the Tangential Cover, as well as across the measurement pan. The use of this air is intended to aid in reducing product buildup on the Pan, Pan Arms, and behind the Tangential Plate. The blast of dry air should reduce buildup and greatly reduce miscalculations caused by buildup on and around the Pan without adversely affecting measurement.



REQUIREMENTS:

Included Components:

- Pulse Blast Manifold
- Pulsed Blast Air Chamber
- Pressure Regulator & Gauge

Also Required, Not Supplied:

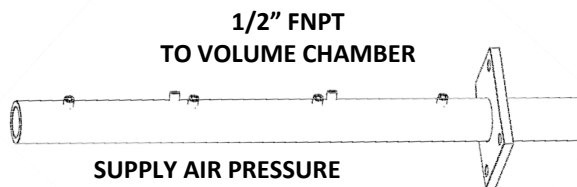
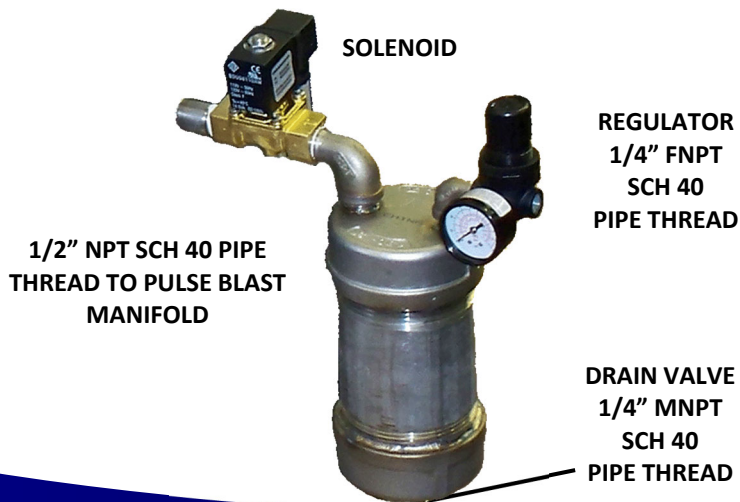
- ✦ Air Tubing (Metal or Plastic – see below)
- ✦ Air Fittings with 1/4" NPT thread
- ✦ Pipe Tape

COMPRESSED AIR LINE SIZES:

All tubing should be Stainless Steel 3/4" Schedule 40 NPT whenever possible.

VOLUME CHAMBER

PULSED AIR MANIFOLD



SUPPLY AIR PRESSURE
 MIN: 100 PSIG (689.5 Kpa)
 MAX: 300 PSIG (2068.4 Kpa)

REGULATOR AIR PRESSURE
 MIN: 25 PSIG (172.4 Kpa)
 MAX: 100 PSIG (689.5 Kpa)

AIR CONSUMPTION
 Less than 0.083 CF per blast*
 *based on 6" meter at 100 psig



INSTALLATION DIRECTIONS

1. Install the Pulsed Air Manifold into the CentriFlow® Pan Cover so that the Flange on the Pulsed Air Manifold lines up with the Cut Out on the Pan Cover. If the meter was shipped with the Pulsed Air System, the Pulsed Air Manifold will already be installed.
2. Mount the Pulsed Air Volume Chamber to the Pulsed Air Manifold by connecting the 1/2" Male Pipe Thread Connection on the Volume Chamber to the 1/2" Female Pipe Thread Connection on the Pulsed Air Manifold. If the meter was shipped with the Pulsed Air System, the Pulsed Air Volume Chamber will already be installed.
3. Connect an air supply to your Pulsed Air System by tubing the regulator with clean dry instrument air of at least 25 psig (137.9 KPa). The inlet line can be ¼" tubing.
4. Run a power cable between the solenoid valve and the CFM Electronics. The normal operation of the solenoid valve is 24 VDC (some older models are 120 VAC or 240 VAC models). The valve is powered by the CentriFlow® Meter's electronics and does not need outside power, however a power cord to connect the solenoid valve to your digital electronics is required. The cord should be at least 18 Gauge, 2 Conductor Cable. Please see local requirements for whether Conduit or SO Cable is required. For normal use, do not exceed 250 ft of cable between the solenoid valve and your electronics enclosure.

OPERATION

1. The Pulsed Air duration, or time that each blast of air lasts, is a constant that is factory set at 100 ms and cannot be changed. The Pulsed Air Frequency, or the duration of time between pulsed blasts of air, can be changed, however. For more information on the Pulsed Air Frequency, please see the OPT. PULSEDAIR page in the HMI Screen Guide for more information.
2. The Lock Out Time, also found on the OPT.PULSEDAIR Page, is also factory set and should typically not be modified in the field. If modification is required, please contact Eastern Instruments.
3. Reduce the pressure on the regulator to the lowest pressure that will still ensure the proper cleaning of the measurement area. The lower the value of the pressure, the longer the life of the solenoid valve.

MAINTENANCE

1. Periodically check the operation by observing the pressure gauge located on the regulator. It will drop to ½ or more of the set pressure during the blast. If the pressure drop is not observed as the associated LED in the control box is lighting, then replace/clean the solenoid valve.
2. Drain the water from the Volume Chamber periodically until some pattern is established. If water is consistently found, consider adding an automatic drain to the volume chamber or improving the supply air quality. DO NOT allow water to fill the volume chamber and then spray into the meter measurement section.



Transducer Replacement

1. Disconnect power to the CentriFlow® Meter.
2. Remove the Rear Access Panel.
3. Disconnect the leads from the Transducer to the Wago connector.
4. Remove the Column Cap holding the Transducer wire.
5. Remove the Transducer.
6. Make sure the Shipping Lock Bolts are not installed when beginning the replacement. However, if the Transducer is being replaced at a location other than the installation point, the Shipping Lock Bolt should be installed while the meter is being moved.
7. Make sure that there is no product flowing through the system.

Installing a Transducer

1. Make sure that the CentriFlow® Meter is installed properly and securely. If the Transducer is being replaced in a location other than the installation point, set the meter at the exact same level so that the balance of the Pan is correct.
2. Fasten the Transducer, using the original screws with Removable Loctite 242 (Blue), to the Cellmount.

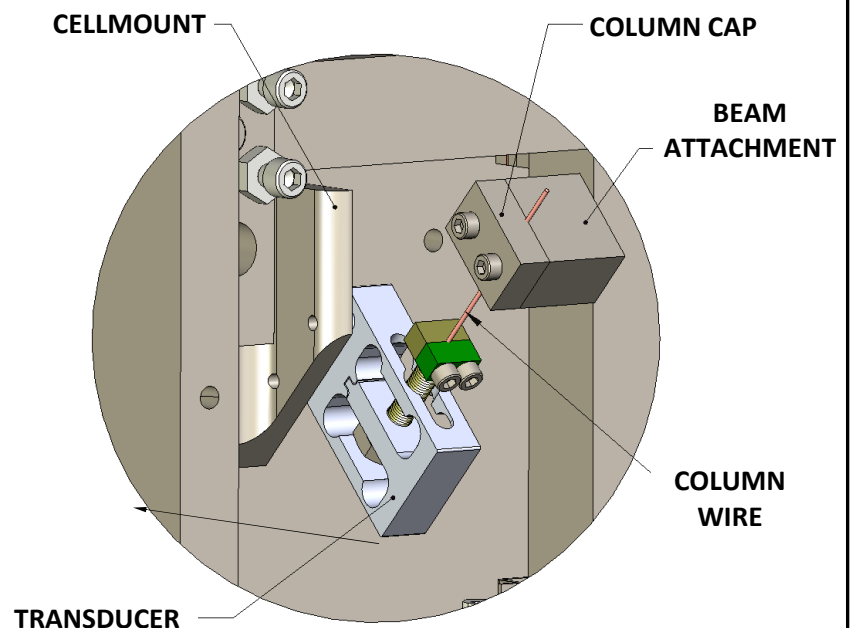
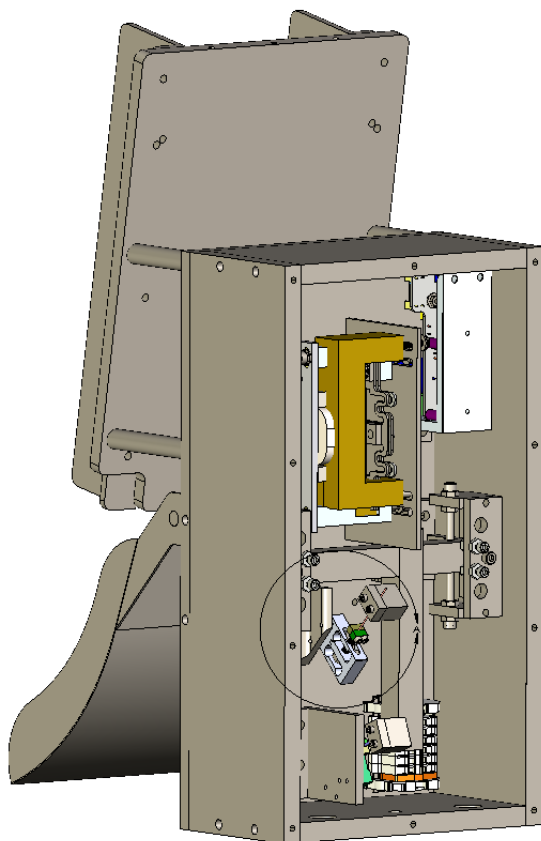
Connect the thin wires from the Transducer to the Wago connector putting them in the proper slots. Note: White and Red are mV output, Green and Black are 5.0Vdc input.

Terminal Number	Color	Signal
1	Red	- Signal
2	Black	- Excitation
3	Green	+ Excitation
4	White	+ Signal
5	Yellow	Temperature Sensor
6	Blue	Temperature Sensor

3. Place a 0.015" (pink) shim between the Upper Overtravel Screw and the Counterweight on both sides. See Overtravel and Counterweight Components Drawing for additional parts reference and identification.
4. Hang the calibration weight from the top edge of the Pan.
5. Check that the Column Wire lies flat on the Beam Attachment and is perpendicular to it. If the wire does not sit flat or is not parallel to its surface, adjust the beam attachment to correct this. When the correct position is obtained, tighten the screws holding the Beam Attachment.
6. Install the new Column Cap over the Column Wire. Use Loctite 242 (Blue) on screws. Tighten the screws evenly and in small increments so as not to distort the Column Wire. Tighten equally in steps until tightly torqued.
7. Remove the calibration weight(s) and shims.
8. Use a voltage meter to observe the output of the Transducer. Read between the red and white wires. An ideal installation will result in a 0.00 mV output; however, the meter will work within ± 0.35 mV of 0.00 mV.



9. Retighten the Column Cap screws while monitoring the mV output from the Transducer. Adjusting the screws may help to counteract the force exerted on the Transducer during the tightening process.
10. If the output is not within the parameters, contact Eastern Instruments' Technical Service Department at (910) 392-2490.
11. Check the gap between the Overtravels and the Counterweight by sliding the shims between them. The shims should fit under the Overtravel with very, very light friction. Be sure that the calibration weight is off the Pan and that the Pan is in a static state. This 0.015" (pink) gap is the full motion of the Pan and needs to be as precise as possible.
12. To check for reverse clearance (bottom clearance), place the 0.015" (pink) and the 0.010" (brown) shims under the Upper Overtravels while lifting the Pan lightly. This will ensure that you have 0.025" total travel, 0.015" on top and 0.010" on bottom. This is very important; if these Overtravels are not set for these gaps the meter will not work properly. This is done when changing the Flexures and should not be required if the Flexures were not changed.
13. Remove all the shims and the calibration weight.
14. Check the output for a 0 - ± 0.35 mV reading.
15. Reinstall the Shipping Lock Bolts (for transport purposes) if the meter is not at its installation point. If the meter is at its installation point, make sure that the Shipping Lock Bolts have been removed and that the Rear Access Panel has been reinstalled.

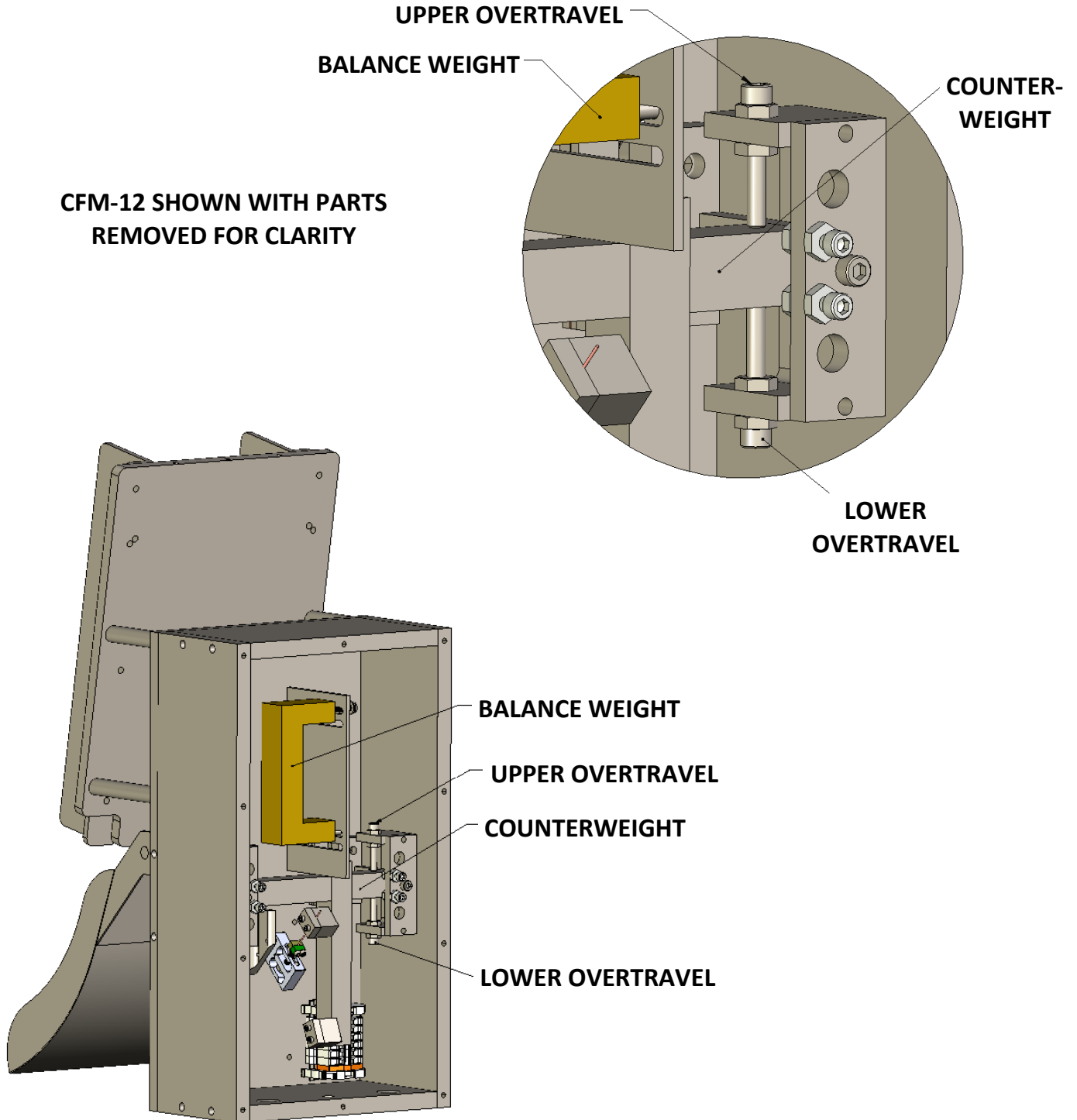


CFM-12 SHOWN WITH PARTS
REMOVED FOR CLARITY



Overtravel and Counterweight Components

Drawing





Flexure Replacement

PROTECTING THE TRANSDUCER

1. Power down the electronics and VibraWeigh® (if equipped). Please follow all proper LOTO procedures for safety.
2. Remove the Rear Access Panel from the meter and install the Shipping Lock Bolts.
3. It is recommended that the Transducer be removed in order to protect the Transducer from being pulled or pushed as the meter is being moved.

REMOVING THE METER FROM THE INSTALLATION POINT

1. Disconnect the Transducer Cable & other power connections from their Wa-gos (connection terminals). Note: Take notes on the connections to help with reinstallation. There should be nothing connected to the meter that could hinder the removal of the meter from its installation point.
2. Unscrew the eight screws holding the meter to the customer's installation location. When moving the meter, try to keep the Measurement Pan from coming into contact with anything.

Note: NEVER SUPPORT THE METER BY THE MEASUREMENT PAN!

3. Place the CentriFlow® Meter on a stable surface for repairs.
4. Remove the ten Socket Head Cap Screws holding the Rear Access Panel to the Meter Casing and remove the Rear Access Panel, exposing the inner components of the meter.

PREPARING THE METER FOR FLEXURE REPLACEMENT

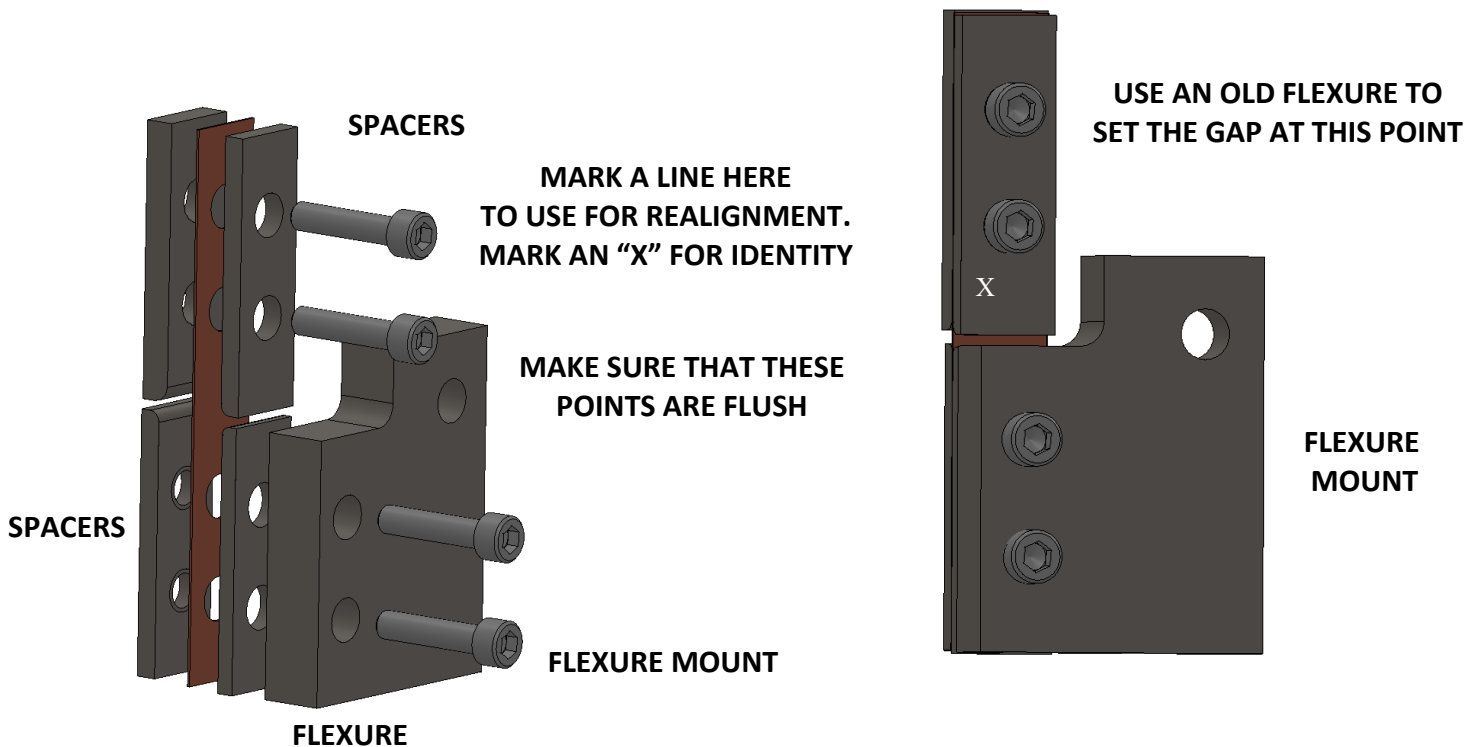
1. Remove the Shipping Lock Bolts.
2. Locate the Overtravel stops that encompass the Counterweight arm.
3. Place the 0.015" (pink) shims provided in the kit on the top of the Counterweight. Slide these shims between the Counterweight and the Overtravel screws.
4. Push up on the Counterweight and place the 0.010" (brown) shims between the bottom of the Counterweight and the Lower Overtravel screws. This should be a good fit.
5. Using a marker, mark the Spacers beside the top screw of each Flexure assembly as seen in the picture. Also, put an "X" on the top Spacer for identification. This will allow you to line up the Spacers correctly in the next few steps.



REPLACING THE FLEXURES

1. Unscrew the four Socket Head Cap Screws that hold the Flexure Assembly together. Note: Replace only one side at a time, broken ones first. Generally, all the Flexures are replaced to ensure meter integrity even if they aren't broken.
2. Remove the old Flexures and reassemble with the new Flexures. Using the markings that you created on the Spacers, line up the Spacers in their original state. Replace the screws using Removable Loctite 242 (Blue), but do not tighten.
3. The Flexure Assembly needs to be flush on the sides so that the Spacers have equal pressure on the Flexure. Also, there needs to be a gap on the inside of the Flexure Mount assembly between the top Spacers and the Flexure Mount. To create this gap and to keep the sides flush, use the old Flexure. Run the old Flexure down the side of the assembly to ensure that the Spacers and the new Flexure are flush. Then, wedge the old Flexure into the space between the Flexure Mount and the top Spacer Assembly to establish a gap in which the Flexure Mount will be able to move. Tighten the screws when the gap is set and the assembly is flush on both sides. Remove the old Flexure shim for making the gap.
(Please see the illustrations below)
4. Repeat the replacement steps for all other Flexure Assemblies one at a time.

FLEXURE MOUNT ASSEMBLY





REBALANCING AND MOUNTING OF THE CENTRIFLOW® METER

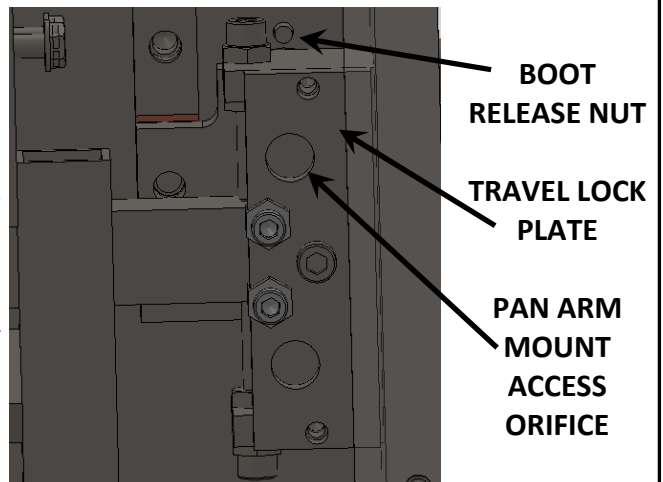
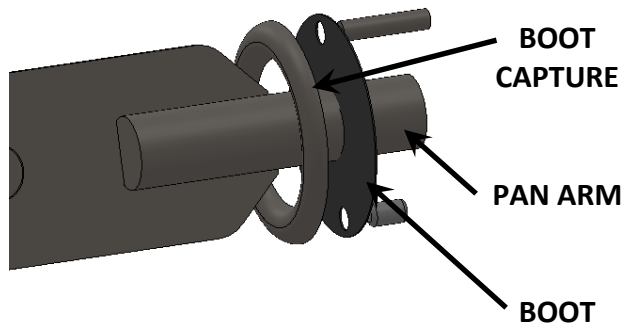
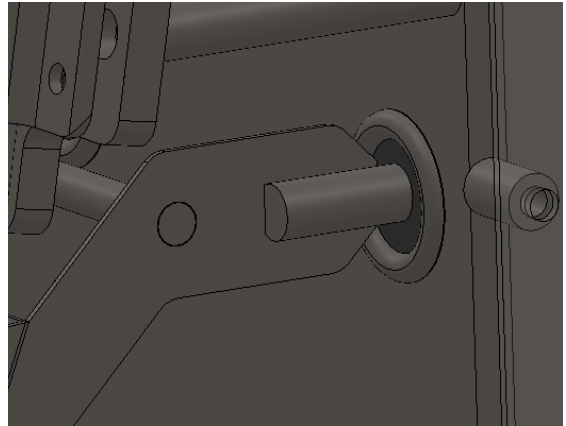
1. First, visually inspect the inner components to make sure all of the Flexure assemblies look correct and there is no debris left in the casing.
2. Put the meter at the installed angle 0°, 10°, or 20° (this is crucial).
3. Since the Transducer is not attached at the Column Wire, the Pan Assembly should be free floating. The meter is a perfectly balanced system and must be mechanically balanced at the Overtravels. There must be a 0.015" gap on the Upper Overtravels and 0.010" on the Lower Overtravels.
4. Adjust the Overtravels to the correct gaps and test by lightly touching the Pan. You will see the meter's Pan Assembly and Counterweight move freely and balanced to those gaps. If they don't balance or move freely, find the rubbing spot and fix. If the Overtravels have to be changed significantly, check the angle that the meter is at and make sure you are at the factory angle of installation. Call the factory for questions.
6. Reinstall the Shipping Locks.
7. Ensure that seal gasket is secure around the entire Meter Casing perimeter. The seal gasket is important to keep out dust or any other particles that may affect the meter's performance.
8. Realign the Meter Casing and the Rear Access Panel and tighten in place with the original screws.
9. Remount using the original screws and Removable Loctite 242 (Blue).
10. Reattach the Transducer Cable and Power Supply to their original positions.
11. Now the meter is ready for the Transducer to be reattached. See the Transducer Replacement Procedure for instructions on reinstalling or replacing the Transducer.



Pan Arm Boot Replacement Procedure

Before replacing the Pan Arm Boots, be sure that the Shipping Lock Bolts are installed and are in the locked position in order to protect the Transducer from damage. For proper Shipping Lock installation, please see the Shipping Locks section of this manual.

1. Remove the Rear Access Panel from the Meter Casing.
2. As shown in the photograph (bottom) remove the two nuts (one on either side of the Pan) located within the Pan Arm Mount Access Orifice. These nuts will loosen the Pan Arms, preparing the Pan for removal.
3. Slide the Pan Arm from the Boot and remove the Pan from the Meter.
4. Remove the Boot Release Nut.
5. Repeat Step 4 for both Pan Arms.
6. The Boot Captures on the front of the meter should now be loose and easily removed from the meter.
7. Remove the Boot Captures (one each) from both Pan Arms.
8. Remove the old Boots from both Pan Arms.
9. Replace new Boot by lining up holes in the Boot with the pin and bolt attached to the Boot Capture.
10. Place Boot Capture and Boot Assembly on Pan Arms for reinstallation of the Pan.
11. Replace Pan and hand tighten nuts that attach Pan to Meter Casing.
12. Replace Boot Capture by lining up the holes in the Meter Enclosure with the pin and bolt attached to the Boot Capture.
13. Replace the Boot Release Nut.
14. Tighten the Boot Release Nuts on both side of your Pan Assembly as well as the nuts attaching the Pan to the Meter Casing.
15. All tightened bolts must use Loctite 242 (Blue).
16. Remove Shipping Lock Bolts.





Frequently Asked Questions

1. I don't have any output from the meter, why?

- A. No power
 - i. Ensure Knife Disconnect terminals in the electronics panel are in the engaged position.
 - ii. Ensure all termination are secure.
 - iii. Verify Power to the enclosure using a Voltmeter.
- B. Wiring problems between Control Enclosure and Customer's PLC
 - i. Verify wiring between Control Enclosure and customer's PLC.
- C. Transducer problems
 - i. Make sure that the wire insulation is not pinched at the terminations.
 - ii. Check for 5.00Vdc at the Transducer on the black and green wires.
 - iii. Inspect the Column Wire and the security of the Column Cap.
- D. Obstructions
 - i. The meter's Pan Assembly is unable to move because of product or other obstruction making contact.
 - ii. Inspect the Flexures.
 - iii. Make sure the Overtravel gaps are properly set.
 - iv. Make sure that there is nothing between the Counterweight and the Rear Access Panel.
 - v. Shipping Locks are locked.
- E. Calibration issues
 - i. Check the Manual Zero and Static Calibration.
 - ii. Check the inhibit level.

2. Why can't I get a stable Manual Zero at 0.00V?

- A. Pan obstructions
 - i. Check for Pan obstructions.
 - ii. Check for product buildup on the Pan Assembly.
 - iii. Make sure the Overtravel gaps are properly set.
 - iv. Make sure that there is nothing between the Counterweight and the Rear Access Panel.
 - v. Ensure Shipping Lock Bolts are removed and not just loosened.
 - vi. Eliminate vibration from other instruments.



- B. Inspect the Flexures
- C. Transducer problems
 - i. Make sure that the wire insulation is not pinched at the terminations.
 - ii. Check for 5.00Vdc at the Transducer on the black and green wires.
 - iii. Inspect the Column Wire and the security of the Column Cap.
 - iv. Ensure that the Transducer Cable is not coiled up in the Meter Casing, applying pressure on the Counterweight.
 - v. Ensure that the Transducer Cable runs inside conduit from the meter to the electronics.
- D. Electrical noise
 - i. Make sure that all connections are tight.
 - ii. Make sure all components are grounded properly.
 - iii. Isolate the power and output lines from all other devices and each other.
 - iv. Find the source of noise and remove/filter/suppress it.
- E. Air movement around the Pan
 - i. Shield the meter from air blowing directly on the Pan Assembly. (Air is mass and the CentriFlow® Meter will weigh it.)
- F. VibraWeigh® Calibration (Option)
 - i. Check to make sure the optional VibraWeigh® is turned on and operating with a smooth and constant vibration.

3. Why does the meter show output when there is no product flow?

- A. Zero
 - i. Check the Zero and Static Calibration to ensure proper setup.
- B. Transducer problems
 - i. Inspect the Column Wire.
- C. Electrical noise
 - i. Make sure all components are grounded properly.
 - ii. Isolate the power and output lines from all other devices and each other.
 - iii. Find the source of noise and remove/filter/suppress it.
 - iv. Ensure input modules are not installed in panels with VFDs or other electrically “noisy” devices.
- D. Air movement around the Pan
 - i. Shield the meter from air blowing directly on the Pan Assembly. (Air is mass and the CentriFlow® Meter will weigh it.)
- E. VibraWeigh® Calibration (Option)
 - i. Check to make sure the optional VibraWeigh® is turned on and operating with a smooth and constant, side-to-side, vibration.
- F. Pan obstructions
 - i. Look for product buildup on the Pan Assembly.
 - ii. Make sure the Overtravel gaps are properly set.
 - iii. Make sure that there is nothing between Counterweight and Rear Access Panel.
 - iv. Shipping Locks are locked.
 - v. Eliminate vibration from other areas.



4. Why is my accuracy not to specification?

- A. Incorrect site calibration
 - i. Perform Static Calibration and site calibration methods.
- B. Manual Zero shift
 - i. Check for buildup on the Pan Assembly.
- C. Check for electrical noise
 - i. Make sure all components are grounded properly.
 - ii. Isolate the power and output lines from all other devices and each other.
 - iii. Find the source of noise and remove/filter/suppress it.
- D. Check for air movement around the Pan
 - i. Shield the meter from air blowing directly on the Pan Assembly. (Air is mass and the CentriFlow® Meter will weigh it.)
- E. Check the flowability of your product to make sure that it is not varying
 - i. Decrease pulsations and give the meter a continuous product presentation.
 - ii. Use optional liners for decreased product resistance.
- F. Check for physical damage on the meter

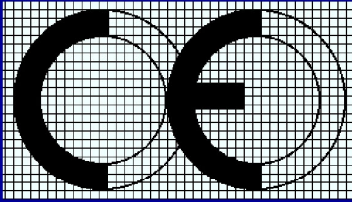
5. Why do the CentriFlow® Meter Electronics and the PLC rates not agree?

- A. HMI Settings
 - i. Check HMI Settings.
 - ii. Check the wiring for good connections.
 - iii. Check to make sure that the electronic full scale, proportional to the 4-20mA signal, is set up the same in the PLC.
- B. Loop power
 - i. The CentriFlow® Meter provides its own power and should not have loop power coming from the PLC.
- C. The PLC scan time is too slow
 - i. If the scan time of the PLC is more than 50ms, it may lose too many data points.
 - 1. Use the optional MRT's output and increase the normalizing factor, averaging function, to smooth the 4-20mA signal.
 - 2. Increase the scan time.
 - 3. Switch to the frequency output and use a counter card in the PLC.
- D. Wiring
 - i. Check all wiring from the meter to the PLC.

** Always disconnect the power and inspect for visible physical damage before servicing.



E A S T E R N I N S T R U M E N T S



Barclay-Phelps

CE MARKING SPECIALISTS

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CERTIFICATE & DECLARATION OF CONFORMITY FOR CE MARKING

Company contact details:

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416 Landmark Drive, Wilmington, NC 28412, USA

Eastern Instruments declares under their sole responsibility that their:

CFM - CentriFlow Meter Series
CFL - CentriFlow Low Flow Rate Meter Series
LDM - Low Density Meter Series
HDM - High Density Meter Series

comply with the Essential Requirements of the following EU Directives:

Machinery Directive 2006/42/EC
Low Voltage Directive 2006/95/EC
Electromagnetic Compatibility Directive 2004/108/EC
RoHS 2 Directive 2011/65/EU

and further conform with the following EU Harmonized Standards as applicable:

EN 61010-1:2010
EN 61326-1:2013
EN ISO 4414:2010

Dated: 13 November 2015

Position of signatory: Technical Director

Name of Signatory: Robert Otto Brandt, Jr.

Signed below:

on behalf of Eastern Instruments