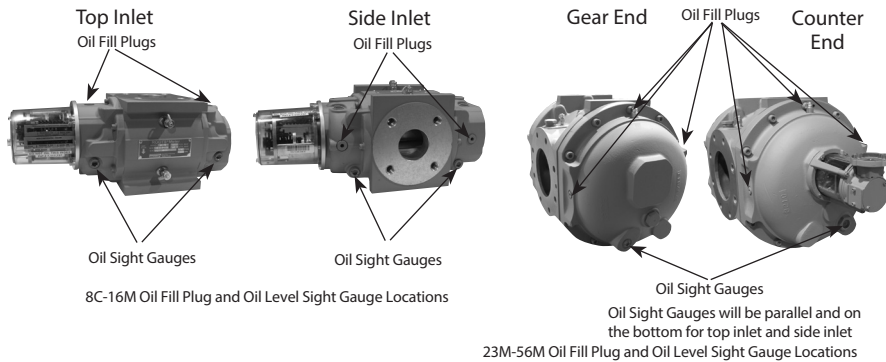


**CAUTION: THE METER END COVER IS PRESSURIZED.**  
**Bleed off the line pressure before removing the oil fill or drain plug from the meter.**



**TROUBLE SHOOTING CHECKLIST**

Trouble	Item	Possible Cause	Remedy
No Flow Registered	1	Obstruction in piping meter	Check pipe and valve to assure an open flow path. Check for impeller rotation. Refer to Step #5 "Placing meter in line."
	2	Index or RPM wheel does not return.	No gas flow. Open valve or remove obstruction per item 1.
	3	Build-up of deposits in measuring chamber.	Flush meter.
High Differential	4	Worn bearings or gears.	Replace or Return to our Product Service Department.
	5	High oil level or heavy oil	Check oil level and cleanliness.
	6	Impellers rubbing cylinder or headplates, or meter out of time	Rotate impellers manually to check for binding or rubbing. Remove obstructions and/or time the meter. Check the meter level.
Vibration/ Noise	7	Piping misalignment or strain.	Remove piping strain. Level meter.
	8	Impellers rubbing	See items #4 & #6.
	9	Contaminants in measuring chamber	See item #3.

**Dresser Meters & Instruments**  
 16240 Port Northwest Drive  
 Houston, TX 77041  
 T: 1-800-521-1114  
 F: 1-800-335-5224



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Series B3 Installation Supplement NGS.MI.0018  
 10.18



**Dresser Meters & Instruments**

**Dresser Series B3 Rotary Meter**

Models 8C175-56M175

Refer to IOM-B3 for Complete Instructions

**Receiving, Handling And Storage**

Although of very rugged construction, reasonable care should be given during handling and storage.

At time of delivery

1. Check the packing list to account for all items received.
2. Inspect each item for damage.
3. Record any visible damage or shortages on the delivery record.
  - File a claim with the carrier.
  - Notify your Roots Meter supplier immediately.

**IMPORTANT NOTES**

- Do not attempt repairs or adjustments, as doing so may be a basis for voiding all claims for warranty.
- Do not add oil to the two meter end cover oil reservoirs until after the meter has been permanently installed and is ready for service. The Series 3 Accessory Units do not require lubrication.

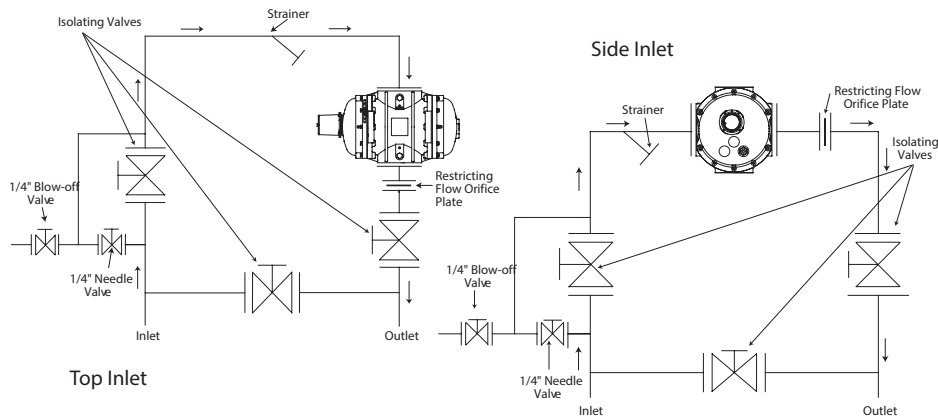


**Introduction – Use And Limitations**

Meters of standard construction are not directly suitable for handling acetylene, biogas or sewage gas. Specially constructed meters made of materials directly compatible with these and other gases are available. Please contact your Roots Meter supplier for details and to request publication TS:SSM.

**Meter Installation – Piping Configurations**

Line mounted Dresser Natural Gas Solutions (NGS) meters may be installed in either a Top Inlet (vertical) or a Side Inlet (horizontal) configuration. The preferred or recommended installation is top inlet in a vertical pipeline with gas flow downward.



Proper torque is required to effectively seal the piping/meter flanges. The maximum recommended torques are provided in Table 1 below.

Table 1 – Recommended Flange Bolt Torques

Meter Size	Bolt Diameter	Torque (ft-lbs)	
		Lubricated	Non-Lubricated (not recommended for reference only)
8C175-16M175	5/8"	55	60
23M232	5/8"	55	60
23M175 – 56M175	3/4"	104	115
1M300	3/4"	104	115
3M300	5/8"	55	60

Tighten flange bolts evenly in a cross-pattern to specified torque values. An additional recommendation is to install the meter in a side loop with a bypass adjacent to the main line. Piping should be solid and properly aligned. Eliminate piping strains on the meter body.

## Meter Pressure Rating

Refer to the meter nameplate for the maximum allowable operating pressure (MAOP). A meter should not be installed where line pressure can exceed the meter MAOP.

### Placing Meter In Line

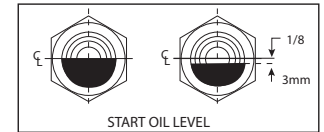
- Before installing a meter:
  - Follow recommended company procedures when venting to atmosphere.
  - Make sure the measuring chamber is clean and dry, that no objects or contaminants are present, and the impellers turn freely. Refer to IOM:B3.
- Meter Orientation:
  - Connect meter inlet to the gas supply side of the line, insuring the gas flow will be in the same direction as the arrow on the meter body nameplate (i.e. arrow pointing downward for Top Inlet or horizontally for Side Inlet.)
  - In a correct installation, both meter oil level gauges are parallel to the ground.
- Install the meter without piping strain to prevent a binding of the impellers. Use pipe supports as required. Level all 8C-56M line mount Series B3 meters to within 1/16" per running foot (5mm/m), side-to-side and front-to-back.

### 4. **DANGER: The meter must NOT be under pressure for this procedure.**

After the meter is installed, remove the socket head plug in the timing gear end cover using an Allen wrench. Depending on meter type, insert an Allen driver into the socket head gear clamp and slowly turn the impellers clockwise, checking for free rotation. If binding is present, do not attempt to disengage the impellers. Replace the plug after verifying free impeller rotation.

### 5. There are two oil reservoirs in the Dresser NGS Series B meter basic body. Oil is shipped with each new meter in a quantity sufficient to fill the reservoirs in either a Top Inlet or a Side Inlet configuration.

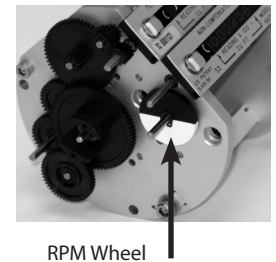
- Remove the pipe plugs in the meter end covers. Slowly add oil to each cover reservoir until the oil level is to the center of the sight glass. **DO NOT OVERFILL.**



## Meter Start-Up

**IMPORTANT:** Slowly pressurize the meter at 5 psig/second (35 kPa/second) maximum when pressurizing. Rapid pressurization can cause an over-speed condition which may damage the meter. Resulting damage is not covered by warranty.

- Open the bypass and outlet (downstream of meter) gas valves.
- Partially open the meter inlet gas valve until the meter starts operating at low speed. Throttling of bypass valve may be necessary to initiate gas flow through the meter. Verify gas is flowing through the meter by watching for movement of the black-and-white RPM wheel on the accessory unit. If movement is present, go to step c. If the RPM dial is not turning, verify gas is being delivered to the meter. If gas is flowing to the meter inlet and the RPM wheel is not moving, go to step e.
- Let the meter operate at low speed for several minutes. Listen closely for unusual scraping or knocking sounds.
- If operation is satisfactory, go directly to step f.
- If unusual sounds are present or the accessory unit's RPM wheel is not turning, place the meter in bypass. Slowly depressurize and vent all pressure from the meter set before checking for piping misalignment, piping strain, torsion, or other related problems. Once the problem has been resolved, repeat the start-up procedure beginning with step a.



### **DANGER: Slowly depressurize and vent all pressure from the meter set before working on meter.**

- Gradually open the inlet valve until full line flow is passing through the meter and the inlet valve is fully open.
- Slowly close the bypass valve.
- Follow your company authorized procedure or common practice to leak test the meter and all connections. Soapy water, Snoop® and gas analyzers are commonly used for this procedure.

## Inspection And Maintenance – Lubrication

No scheduled lubrication maintenance is required.

Meter oil change frequency will depend upon the gas being measured. Change oil when the color darkens or when the level increases. Under favorable conditions, these periods may be from 3 to 5 years, or longer.