

UNPACKING

Please open and inspect your package upon receipt. Your package was packed with great care and all the necessary packing materials to arrive to you undamaged. If you do find an item that is broken or damaged, you must contact the delivering carrier to report the claim.

JET METER INSTRUCTIONS

GETTING TECHNICAL ASSISTANCE

The H.E. Anderson Company is dedicated to assisting our customers with installation and use of our products. Our technical staff are available each weekday from 8:30am to 4:30pm central time. You may call us toll free at **1-800-331-9620** from anywhere in the U.S.A. and Canada. If no one is available, we will promptly return your call.

Before you call, we suggest that you review this manual. You may find the answer to your question here. But even if you do not, reviewing the manual will help us to help you.

There is some information you should have available when you call. You should know the model and serial number of your control unit. Also, you should note the number of pumpers of each type, and their model numbers (found under the adjustment knob, stamped into the casting). We may not need all this information, but having it available at the start can sometimes save a lot of time and trouble for you.

If you need an additional owners manual for **any** H.E. Anderson Company product, please visit our website at <http://heanderson.com/manuals.php>



Jet Meter

Your jet meter will provide many years of dependable service. Jet meters offer superior tolerance to sand and debris. They also offer low flow sensitivity and excellent reliability over a wide flow range.

TABLE 1

Connection Size	Flow Range (GPM)	K Factor Pulses/Gal
3/4"	1/4 to 20	234
1"	1/2 to 30	171.6
1"	3/4 to 50	83.26
1-1/2"	1-1/2 to 100	26.94
2"	2 to 160	26.94

Exceeding the maximum rated flow can damage your meter.

LOCATION AND ACCESS

- Locate for easy and safe access.
- Protect the meter from direct water spray. The upper section contains delicate electronic circuits. The enclosure is water resistant, but not waterproof.
- Avoid extreme temperatures. **Do not allow the meter to freeze. Meters are not warranted against freezing.**
- Water temperatures through the meter should be within the range of 33° to 140°F (.5° to 60°C).

INSTALLATION

Before installing this meter check local city, state, or government codes to ensure that the proper, required devices (i.e. back flow preventer) are used.

- Install the meter in a horizontal and upright position.
- Install on the discharge side of any pump, with the directional

arrow pointed downstream.

- If a pump is installed on the upstream side of the meter, there should be a minimum of ten (10) diameters of straight pipe immediately downstream of the meter to ensure accurate measurement.
- Install shut-off valves on the inlet and outlet sides of the meter so that it can be removed for servicing.
- If a meter is set in a service that cannot be shut off during maintenance, a bypass should be installed around the meter, or some other approved means should be provided to keep service open.
- Take care when cutting, threading, or joining pipe, that cuttings, pipe dope, solder, or other debris do not get inside the pipe.
- Before placing the meter in service, the line upstream of the meter inlet should be flushed to remove any debris.

After the meter is installed and service is ready to be turned on, make sure that both shut-off valves (upstream and downstream) of the inlet and outlet of the meter are closed.

Start the pump or other source of water supply. Slowly open the valve upstream of the meter's inlet to fill the meter with water. Then, slowly open the valve downstream of the meter's outlet to fill the balance of the system with water. By opening the valves slowly in this sequence, the chamber and other meter parts will be protected from breakage due to hydraulic shock which often occurs when a swift flow of water is

suddenly emptied into a dry meter.

OPERATION & MAINTENANCE

Relieve all pressure from the water line before servicing or removing the meter

- Observe the maximum flows given in Table 1.
- Do not allow peak flows for extended periods

Under average conditions, the following intervals are recommended for inspection and proper functioning.

TABLE 2

Connection Size	Flow Range (GPM)	Service Interval
3/4"	1/4 to 20	15 years
1"	1/2 to 30	15 years
1"	3/4 to 50	15 years
1-1/2"	1-1/2 to 100	10 years
2"	2 to 160	10 years

STORAGE

- Drain all water from the meter before storing.
- Do not allow the meter to freeze.
- Do not subject the meter to temperatures over 140° F.

TROUBLESHOOTING

Troubleshooting the jet meter is rather simple.

First observe what the two LEDs on top of the meter are doing. One should be on constantly when power to the controller (i.e. J Plus) is present. The other should flash when water is flowing.

If the flow LED appears to be on constantly then slow the water flow. Sometimes the light will flash too fast for the human eye to see.

If the power light is on and the flow light

is flashing, there could still be a problem with the small circuit board on the meter. To verify that it is or isn't the small circuit board you must verify that the J Plus controller is working correctly. To do this,

- Disconnect power to the J Plus.
- Remove the three wires from the small circuit board. There is a bare wire, #1, black wire #2, and a red wire, #3.
- Spread the wires apart so that they are not touching each other or anything else.
- Now, power up the J Plus and touch the #1 wire and the #2 wire together in a tapping motion like "tap-tap-tap-tap". When you are tapping the wires watch the display on the J Plus to see if it is registering flow.
- If it is, then the problem is with the circuit board on top of the water meter. Order a replacement board, P/N 15231.
- If the display is not registering flow, then the problem is most likely in the wire cable or the J Plus controller. To troubleshoot the J Plus please refer to the J Plus owners manual.

SERVICING

Do not disassemble any jet meter unless one of our qualified technicians instructs you to do so!

Many times the meter does not need to be dis-assembled and can be re-assembled incorrectly if appropriate instructions are not followed.

The meter is not difficult to service if close attention is observed. There are only two items that will/need to be replaced. The electronic circuit board, P/N 15231, and the measuring chamber.

CIRCUIT BOARD REPLACEMENT

- Disconnect power to the unit.
- Loosen the black colored strain relief so the wire cable moves freely.
- Turn the clear cover 1/4 turn in either direction and lift straight up on the clear cover to remove it
- Next, disconnect the three wires connected to the board. Note which wire connects to each terminal. The bare wire connects to terminal 1. The black wire connects to terminal 2. The red wire connects to terminal 3.
- Remove the two screws that hold the circuit board.
- Install the replacement board.
- Tighten the strain relief.
- You are now ready to apply power. And resume normal operation.

MEASURING CHAMBER REPLACEMENT

Only replace the measuring chamber when instructed to do so by one of our technicians. Refer to the parts drawing on the next page.

- Turn off the water and relieve the pressure in your water line.
- Then, loosen the meter couplings and rotate the meter upside down. (If you cannot turn the meter upside down, you will need to remove it from the water line and take it to a workbench or table.)
- Remove the four bolts.
- Gently remove the plate seal o-

ring and then the plastic seal retainer.

NOTE: There is another large chamber seal o-ring inside the meter. Be sure to keep the o-rings separate as they are different in size.

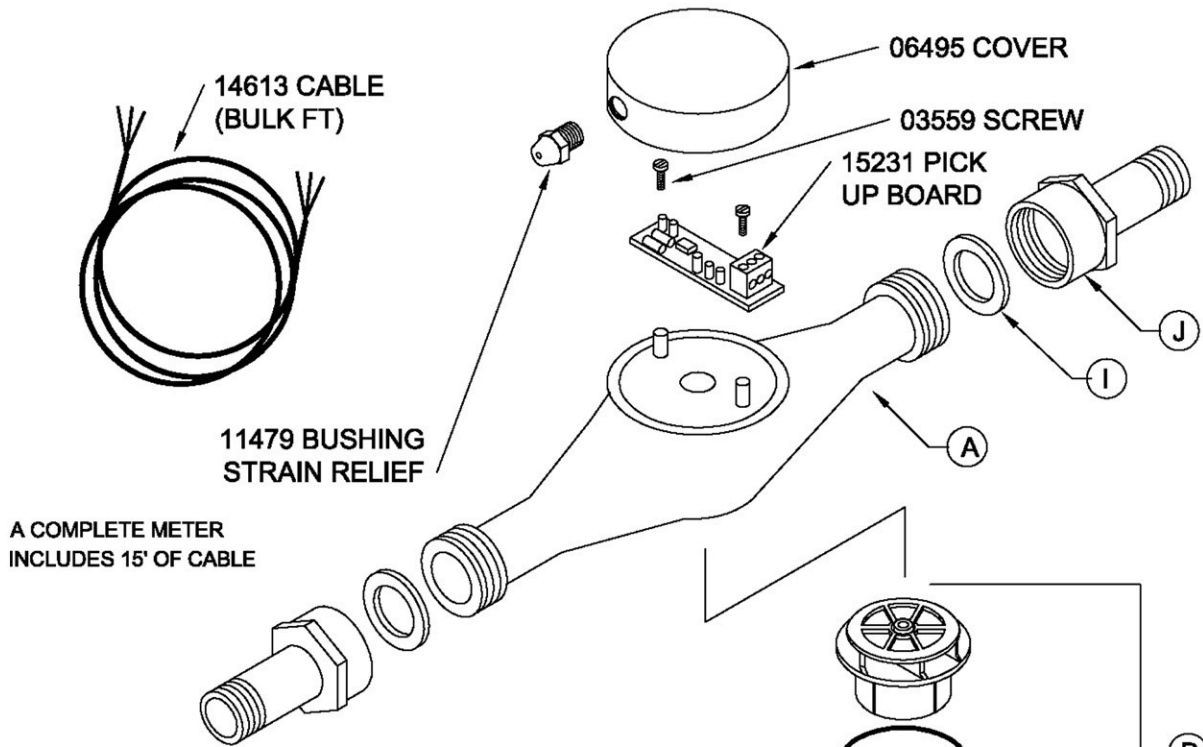
- The basket strainer and impeller should come right out. You can now replace any needed parts.

NOTE: Some of the items are “keyed”. This means that the parts should only be install in one direction.

Refer to the parts drawing for parts identification. Special care is needed to properly re-install the measuring chamber. Use the following procedure.

- Remove the strainer basket and o-ring from the chamber assembly.
- Place the main part of the chamber assembly into the meter body and rotate it so that the plastic tab drops into the keyway in the body and prevents rotation.
- Place the o-ring and strainer basket in the meter body.
- The plastic seal retainer must be rotated to snap into the filter basket. Pay close attention to the “webbing” on the bottom side of the plastic seal retainer. The other “keyed” item is the part that encloses the impeller. It is more visible and will snap into place.
- Check your work for correct assembly
- Re-install the plate seal o-ring and the four(4) bolts.
- Install the meter back into the water line if it was removed. You are now ready to test the system.

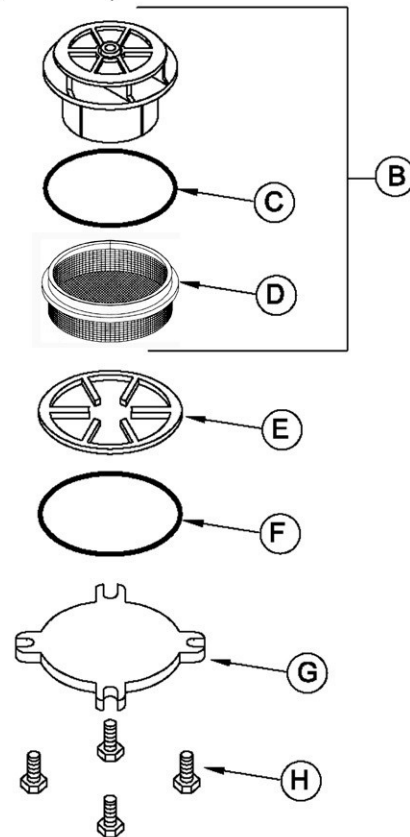
JET METER PARTS



JET METER PARTS

GPM METER SIZE

DESCRIPTION	20	30	50	100	160
COMPLETE METER	15348	14176	14184	14192	14209
METER ASS'Y (A-H)	15299	15306	15314	15322	15330
A METER HOUSING	16198	16209	16210	16221	16232
B CHAMBER ASSY	15943	15954	15965	15976	15976
C CHAMBER SEAL	15987	15987	15998	16009	16009
D STRAINER	16132	16132	16143	16154	16154
E SEAL RETAINER	16010	16010	16021	16032	16043
F PLATE SEAL	16054	16054	16065	16076	16076
G BOTTOM PLATE	16165	16165	16176	16187	16187
H BOLTS	16087	N/A	N/A	16098	16098
H LEGS - SHORT	N/A	06552	06578	N/A	N/A
I COUPLING	15356	15372	15372	16954	16965
J COUPLING GASKET	15364	09738	09738	00852	00935
BOTTOM GASKET (NOT SHOWN PS UNITS ONLY)	16376	N/A	N/A	N/A	N/A
K - FACTOR	234	171.6	83.26	26.94	26.94



RATIO:FEEDER® LIMITED WARRANTY

WHAT IS COVERED

The H.E. Anderson Company of Muskogee, Oklahoma, will make any necessary repairs and/or replace any parts of any Ratio:Feeder® product made necessary because of defects in materials or workmanship for fifteen months from date of manufacture. Warranty repairs and/or replacements will be performed without charge to the owner by H.E. Anderson Company within a reasonable time after prepaid delivery of the defective product to the H.E. Anderson Company, 2100 Anderson Drive, Muskogee, Oklahoma 74403.

WHAT IS NOT COVERED

This warranty specifically excludes failure of any parts or materials caused by chemical attack or damage caused by operation above rated capacity or pressure. Further, this warranty does not cover wear or failure caused by sand or other foreign materials which may be found in water that is passed through our products, or damage caused by freezing or exposure to water temperatures above 60 °C (140 °F).

This warranty does not cover damage caused by failure to follow prescribed installation instructions and limitations issued by H.E. Anderson Company. In addition, this warranty does not cover service adjustments, repairs, or replacements caused by misuse, negligence, alteration, accident, or lack of specified maintenance.

This warranty does not cover components used by, but not manufactured by H.E. Anderson Company, in the manufacture of our products except to the extent of said component manufacturer's warranty.

This warranty specifically excludes liability for consequential damages or for charges for labor or expense in making repairs or adjustments, or losses of time or inconvenience.

This warranty gives you specific legal rights and you may also have other legal rights which may vary from state to state. H.E. Anderson Company does not authorize any person to create for it any other obligation or liability in connection with these products. ANY IMPLIED WARRANTY APPLICABLE TO THESE PRODUCTS IS LIMITED TO THE DURATION OF THIS WARRANTY. H.E. Anderson Company shall not be liable for consequential damages resulting from breach of this written warranty.

NOTE: Some states do not allow limitation on how long an implied warranty will last or the exclusion of limitations of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

WHAT TO DO IF THERE IS A QUESTION REGARDING WARRANTY

- 1) Promptly notify the consumer adviser at H.E. Anderson Company by telephone at 800-331-9620 or 918-687-4426.
- 2) Confirm the report in writing (or via FAX at 918-682-3342) to the H.E. Anderson Company, stating the circumstances surrounding the problem.

PURCHASER'S OBLIGATION

- a) Purchaser must give H.E. Anderson Company immediate written notice on discovery of defect.
- b) Purchaser must pay for shipment of the defective product to the H.E. Anderson Company, 2100 Anderson Drive, Muskogee, Oklahoma 74403.