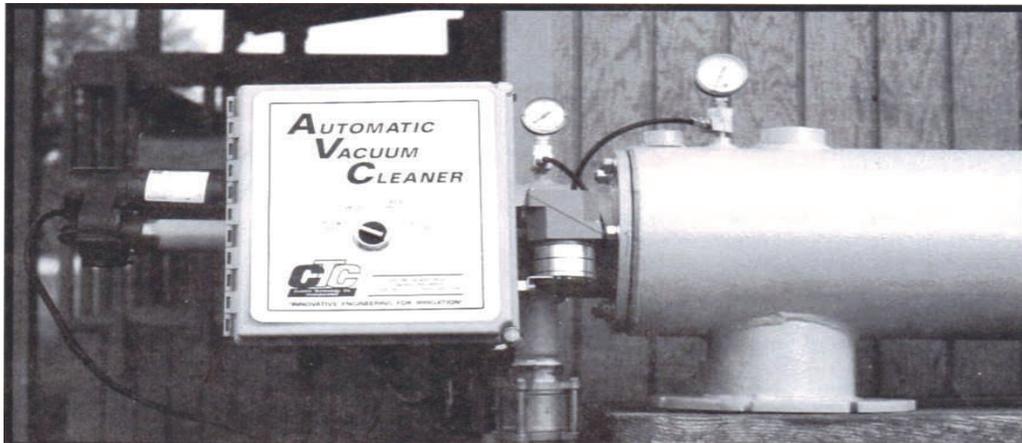
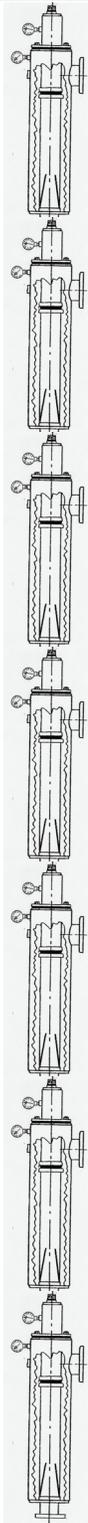
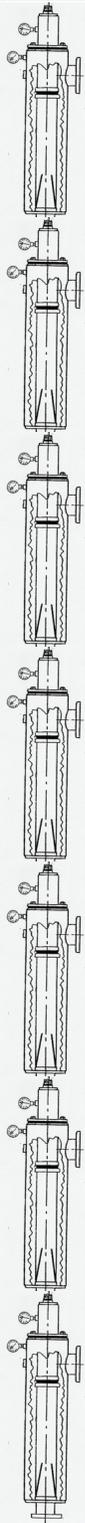


Mesh Screen Filters
CLEANED
AUTOMATICALLY
WITH CTC'S
A.V.C.
Automatic Vacuum Cleaner



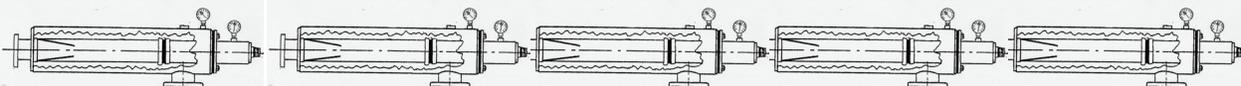
Operation & Maintenance
Manual

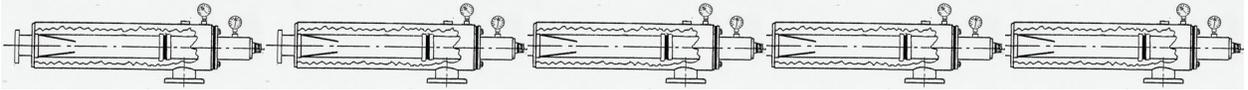


Custom Technology Co., Inc.

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(509) 965-3333 • FAX # 965-9309

"INNOVATIVE ENGINEERING & MANUFACTURING"





Introduction

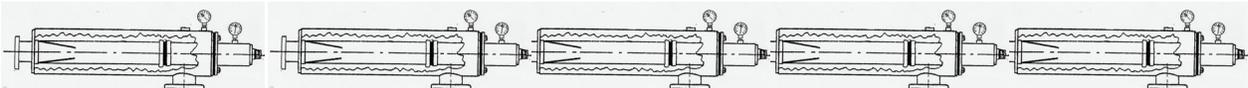
Your new AVC (AUTOMATIC VACUUM CLEANER) is a cleaning accessory that converts CTC's BIG or TIG series filters to automatic self-cleaning systems. The entire AVC is contained in a special filter head (or cap) and the filter screen is attached to it. This accessory is meant for cleaning fine mesh screen filters.

Installation

All new equipment.

Your new AVC is shipped to you with your new filter. They are assembled as one unit ready to install and operate. The filter inlet and outlet ports are to be connected to your main lines. (See figure 1 for nomenclature). It is recommended that the pipe from the blow off valve be as unrestricted as possible. Use as large a pipe size as you can (at least equal to the valve size). Keep the pipe short with a minimum of elbows and restrictions in it. DO NOT connect to a line that is pressurized.

There is a 110 volt A.C. plug which draws 5 amps maximum. Connect this and the system is ready to operate.



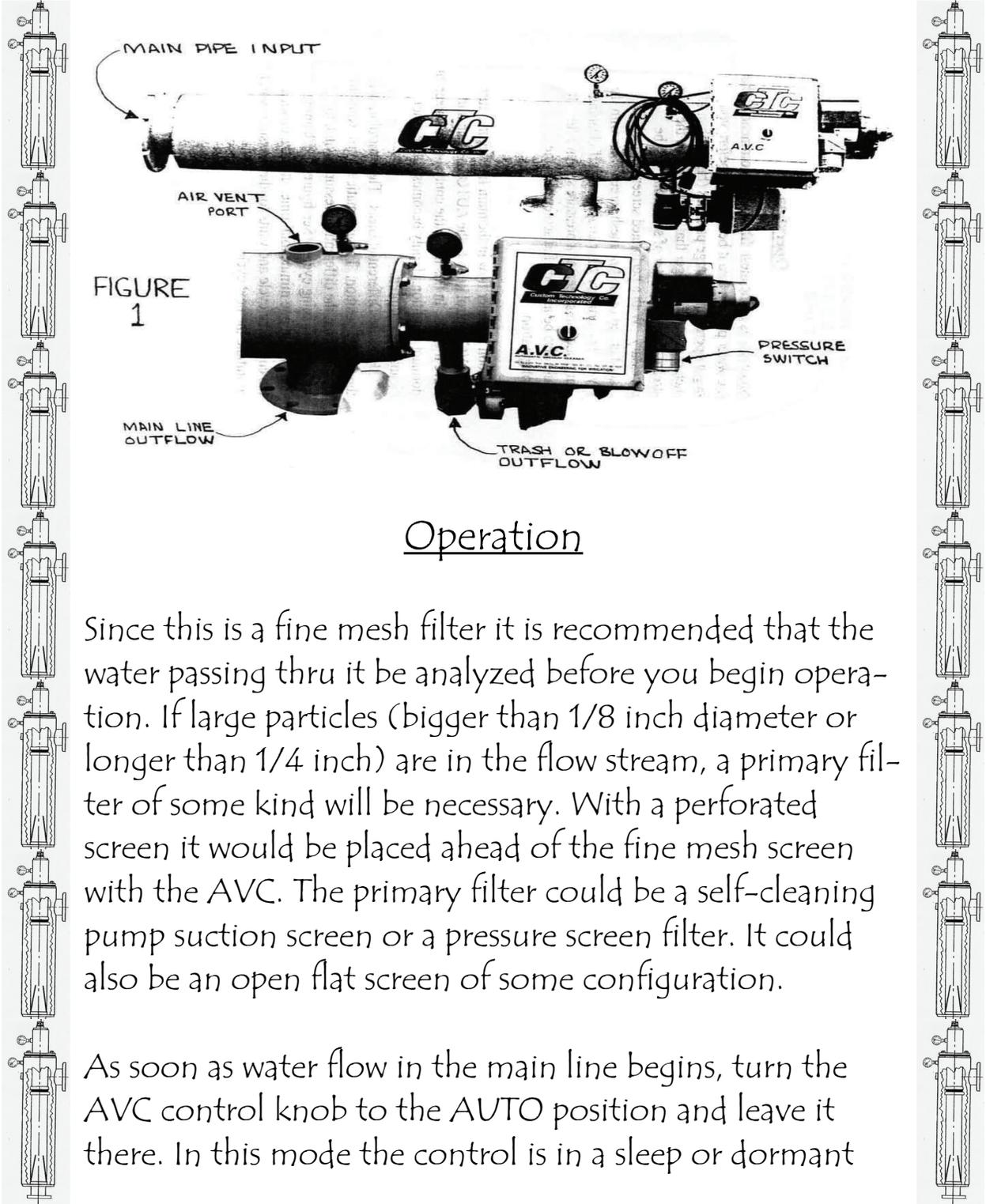
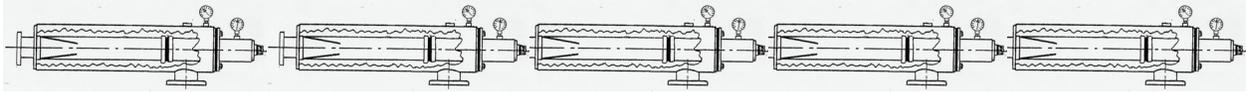
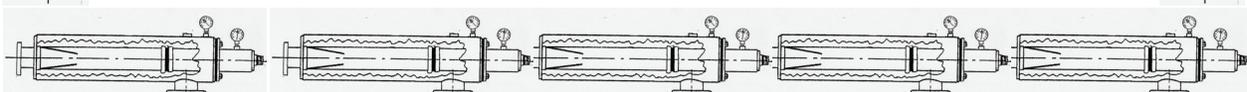


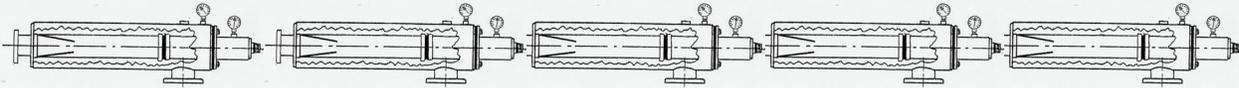
FIGURE 1

Operation

Since this is a fine mesh filter it is recommended that the water passing thru it be analyzed before you begin operation. If large particles (bigger than 1/8 inch diameter or longer than 1/4 inch) are in the flow stream, a primary filter of some kind will be necessary. With a perforated screen it would be placed ahead of the fine mesh screen with the AVC. The primary filter could be a self-cleaning pump suction screen or a pressure screen filter. It could also be an open flat screen of some configuration.

As soon as water flow in the main line begins, turn the AVC control knob to the AUTO position and leave it there. In this mode the control is in a sleep or dormant





condition. It only becomes active when cleaning is required.

Pressure Differential Basis: The control now is in the AUTO position. The automatic control waits for a signal from the differential pressure switch to initiate a cleaning cycle. (See figure 2). Cleaning takes about one minute total time. It shuts down at the end of the cycle and waits for the pressure switch to initiate the next cycle.



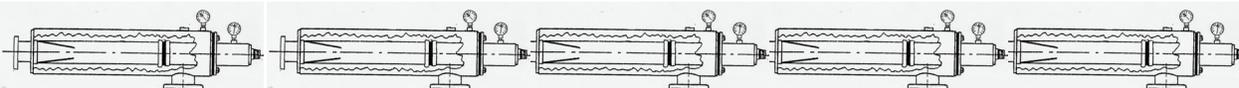
FIGURE 2

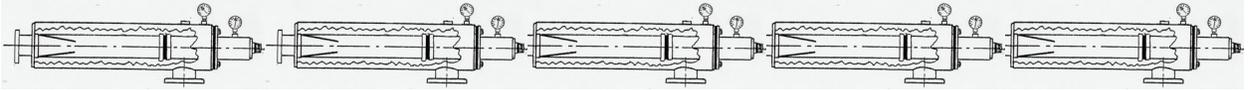
Selector Switch Positions

On the control box cover the selector switch has three positions.

OFF: disables the entire system

AUTO: normal operating position makes the system





function as described above.

MANUAL: this is a spring return to AUTO function. A momentary switch rotation to this position will start a cleaning cycle, which will continue to completion. When you let go of the switch it will spring back to the AUTO position.

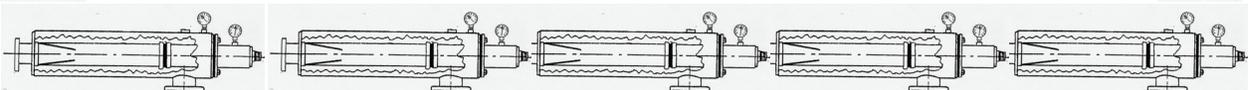
Accessory Counter

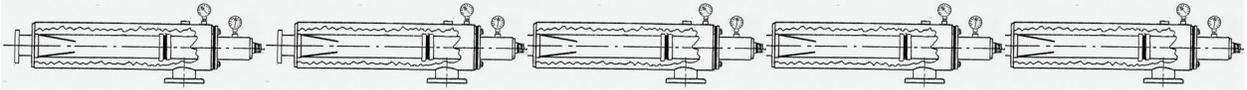
If your unit is fitted with a counter, it will be outside reading and reset on the control panel door. This is useful to monitor AVC operation.

Once above adjustments are complete, you will know in a few days what is a normal number of cleaning cycles per unit of time. If you suddenly observe a big difference in the number of cycles per measured time interval, then you may have a problem (see troubleshooting).

Troubleshooting

1. System won't operate at all
 - check fuse
 - check incoming power
 - check for loose wires inside control enclosure





- turn selector switch to MANUAL, which should start a complete cleaning cycle
 - check differential pressure switch, which is done by inserting a rod 3/16 diameter maximum into the hole on the unit (see figure 3) and pushing upward
 - if a cleaning cycle doesn't begin, then go inside the control enclosure and connect across terminals for the two wires coming from this switch. If that doesn't make a cleaning cycle start then the control has a major failure.
2. Motor runs but valve won't open
- check inside valve operator box. This is either a clear or yellow covered unit. Check for 110 v AC at terminals inside unit.
 - send valve operator to CTC for checking or replacement.

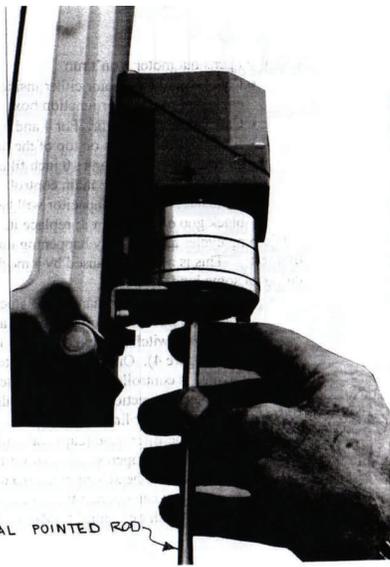
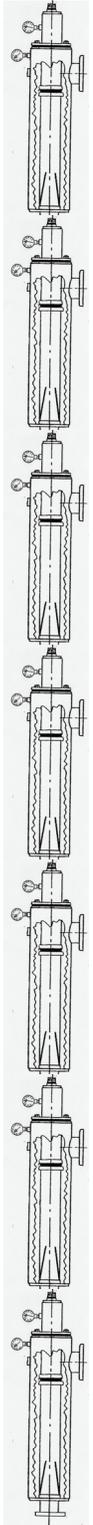
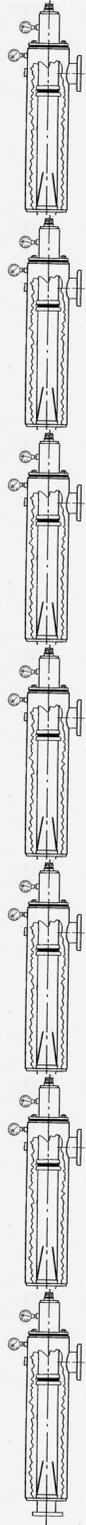
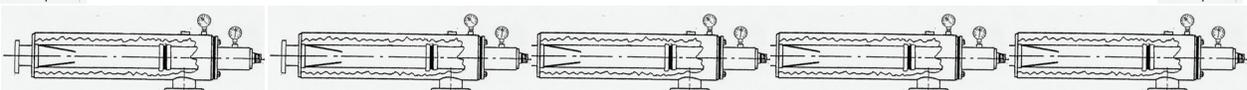
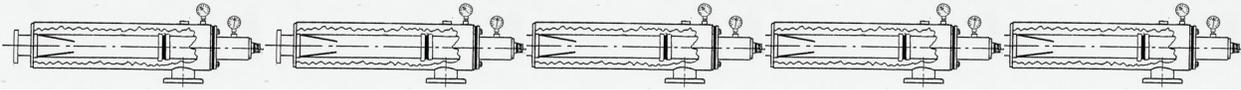


FIGURE 3





3. Valve opens but motor won't run

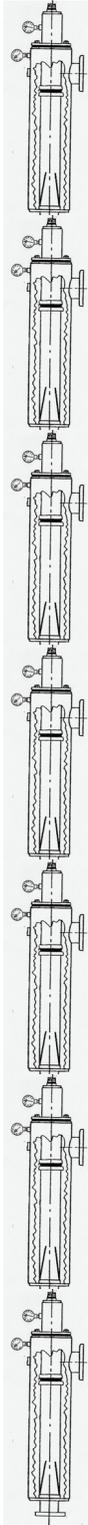
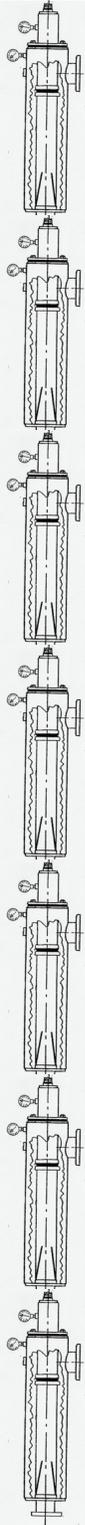
-check voltage to motor either inside control enclosure or at motor junction

-check motor capacitor. For 4 and 6 inch filter controllers, it is on top of the motor in an enclosure. For 8 and 10 inch filters the capacitor is inside the main control enclosure. A faulty capacitor will have black goo oozing from it; replace it.

4. Cleaning cycles are suddenly happening too frequently. This is probably caused by mechanical failure of some kind.

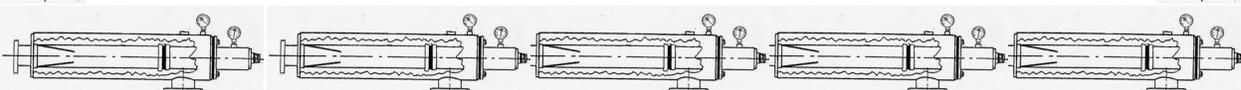
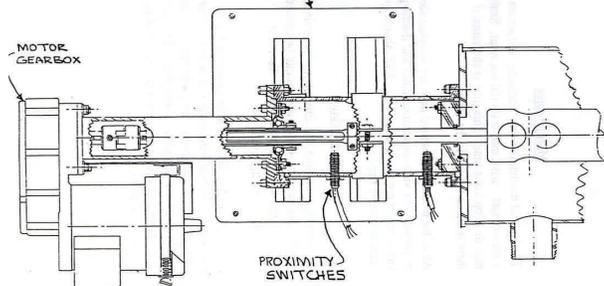
-the vacuum cleaner manifold is stuck. It may have traversed too far because a proximity switch has failed (8 and 10 inch filter, figure 4). On 4 and 6 inch filters traverse is controlled by a limit switch inside the motor connection cover. Note: there are two proximity or limit switches.

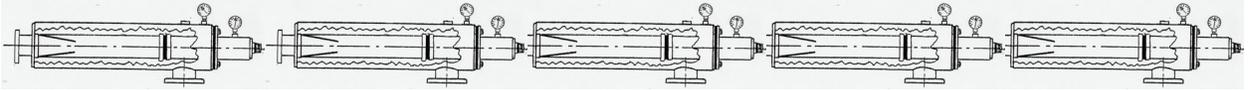
-remove the filter head (cap) and screen. Look inside the open screen end for broken parts. With the head/screen removed from the body you can operate the system (turn selector switch on control to MANUAL) and observe.



BACK OF ELECTRIC CONTROL BOX

FIGURE 4





Maintenance

The internal mechanism that 'vacuums' the screen is a non-contact device and so should not wear. Seals may develop leaks over time. This time is shortened if there is excessive grit in the water.

All of the mechanism-wetted parts are stainless steel or plastic. The vacuum scanner motor and discharge valve motors are sealed units. Your AVC should give years of trouble free service.

Winterizing

For freezing conditions, the filter should be drained then the discharge blow-off valve should be opened to drain it and its adjacent chamber. Keep the control enclosure tightly closed.

It is recommended the control be turned OFF and unplugged. The best winterization is to remove the entire filter head and screen along with the AVC unit. Put away in a dry, clean, warm place. The filter body opening should be covered with a heavy plastic bag to keep it clean.

