

Hydromatic™ Self-Cleaning Raw Water Strainers

US Patent No. 5,830,366

Models 911-1000 Installation and Operation Instructions

GROCO
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The Concept: For as long as raw water strainers have been made, and for as long as they have performed their duty of filtering debris from the cooling water flow to engines and equipment, there has been occasional need to shut the system down for filter basket cleaning. A Hydromatic™ Self-cleaning Strainer will eliminate this task by periodically performing a 30-second self-cleaning cycle. A powerful macerator grinds the debris that has accumulated inside the filter basket and discharges it overboard.

Installation Notes:

* Refer to (Figure-1). Install the filter/pump unit so that occasional inspection is convenient.

- * Secure the upper bracket on the strainer head casting to a bulkhead or stringer.
- * 911 Series Hydromatic™ pump motor is not waterproof.
- * Hydromatic™ pump is not self-priming
- * Use a full-flow seacock and fittings to plumb the inlet to Hydromatic™.
- * If an external strainer is used over the inlet thru-hull, install the biggest strainer possible.
- * Use the air bleed valve to eliminate air from the system by connecting the bleed hose from Hydromatic™ to the white side of the check valve. Secure the air bleed valve as high as possible above the waterline. (Refer to Figure-1.)

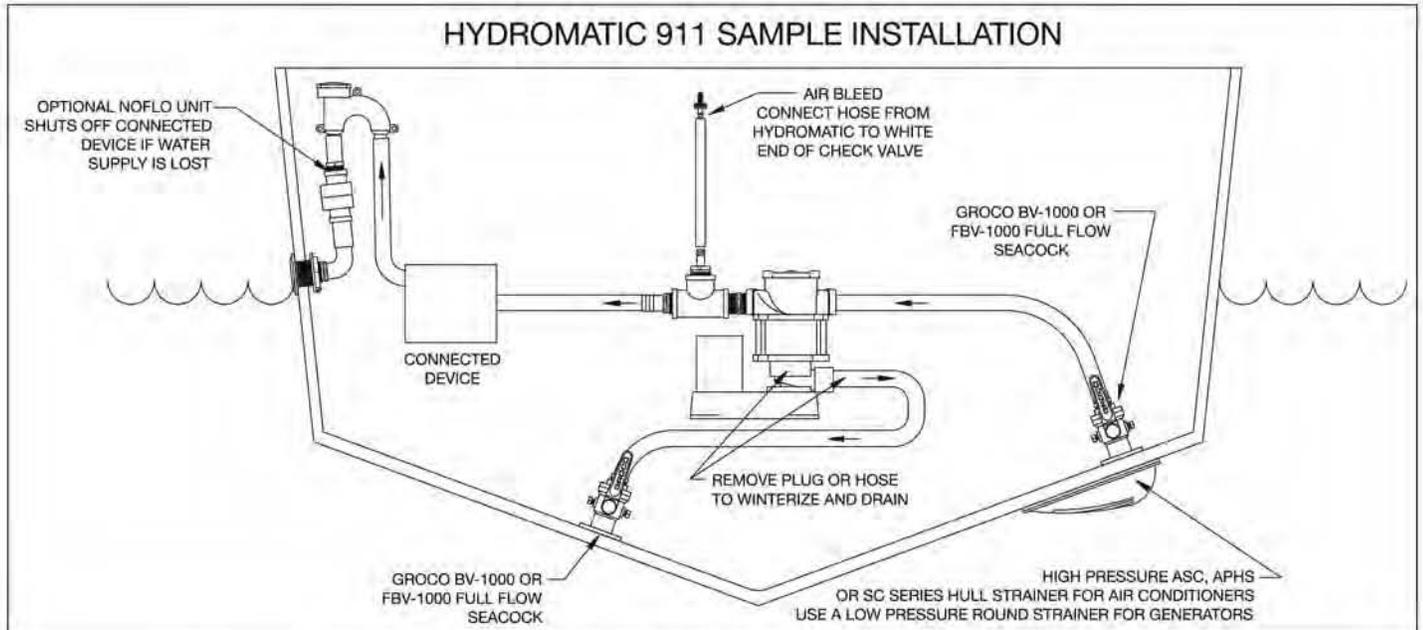


FIGURE 1

Filter/pump installation if used with a generator: The generator raw water pump will self-prime. Install Hydromatic™ above the waterline if possible. Install a round hull strainer that does not force water into the generator (such as GROCO RSC or RSC-L) over the inlet thru-hull fitting. Use the largest possible hull strainer to minimize the velocity of the in-flow; this will reduce the possibility of large debris such as plastic bags or leaves from blocking the inlet. Fasten the pump/filter black plastic base to a sturdy platform with four (4) 1/4" stainless steel bolts with flat washers beneath the bolt heads.

Filter/pump installation if used with an air conditioner: The air conditioner raw water pump will not self-prime, so Hydromatic™ must be installed below the waterline. Install a hull strainer that will direct water into the air inlet plumbing (such as GROCO SC, ASC or APHS) over the inlet thru-hull fitting. Use the largest possible hull strainer to minimize the velocity of the in-flow; this will reduce the possibility of large debris such as plastic bags or leaves from blocking the inlet. Fasten the pump/filter black plastic base to a sturdy platform with four (4) 1/4" stainless steel bolts with flat washers beneath the bolt heads.

Operator Panel Installation: The operator panel fits into a 2-11/16" high x 3-7/8" wide bulkhead cutout. The panel is water-resistant (but not water proof). Install in a dry location to protect the panel and its circuitry and to improve visibility of the illuminated panel indications.

Plumbing: The 1" ID hose run overboard from 911 discharge should be as short as possible to minimize the accumulation of macerated debris in the discharge line when the pump shuts off. Locate the 1" discharge seacock on the opposite side of the vessel keel from the inlet seacock. Avoid sharp bends and sags in hose lines. Double-clip all hose connections.

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Air Bleed System: If the vessel is stored on a boatlift, experiences rough seas, or travels at high speed, the accumulation of air in Hydromatic™ filter chamber is possible. The air bleed fitting and valve will eliminate the air through the plastic tube and check valve (see Figure-1). Attach the clear hose provided (no clamps are needed) to the white end of the check valve and to the barb fitting at the Hydromatic™ outlet. Locate the check above the outside waterline (water in the tube will indicate the location of the outside waterline).

Decide how you want Hydromatic™ to function: Hydromatic™ is controlled by a microprocessor that commands a 30-second self-cleaning cycle in either of these methods:

1. By accumulating the running time of the connected device, and performing a cleaning cycle when the run time reaches the time interval you selected on the touch-pad. If the connected device is an air conditioner (or a device with a A/C motor), refer to Figure-2 for electrical hook-up. A/C motors may be 115VAC or 230VAC, 50Hz or 60Hz.

2. By performing a cleaning cycle at the "real time" interval you have selected on the touch-pad, regardless of the running time of the connected device. Refer to Figure-4 for electrical hook-up.

If the connected device is a generator (or a device that will provide a switched DC signal to Hydromatic™) refer to Figure-3 for electrical hook-up.

Connecting DC Power to the Operator Panel: Use 18-gauge (or larger) tinned copper wire to provide power for the operator panel directly from the DC power distribution panel. Do not share this line with another device. Terminal-7 is (+) and terminal-6 is (-). Similarly, connect the 1-amp fuse provided, as shown in Figures 2, 3 or 4.

Connecting DC Power to the Filter/Pump: Power for the macerator is provided through the solenoid (supplied) by wire of sufficient gauge to carry a 30-amp load @12VDC (15-amps @24VDC). Refer to the wire size selection chart, and provide a separate circuit breaker (30-amp for 12V; 15-amp for 24V).

Connecting the Power Solenoid: The power solenoid is not waterproof. Install it in a dry location and wire in compliance with Figures 2, 3 or 4 and the wire size selection chart.

Operator Panel: The Operator Panel has two control buttons and several indicator lamps that indicate as follows:

*When power is first applied, a self-test routine will occur during which all light will illuminate alternately. Then all lights will go out unless a consumer is running.

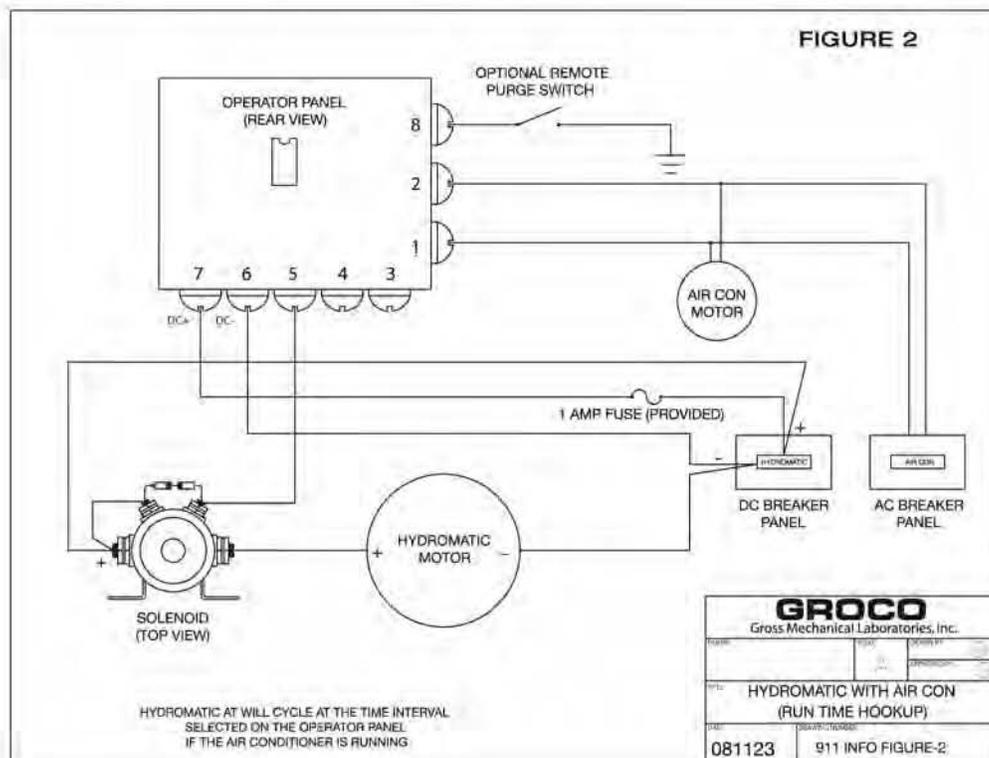
*To select an interval press "Set" until the desired interval is displayed. If no light is illuminated, the control will not command a cleaning cycle.

*To manually command a cleaning cycle press "Clean". This will trigger a single cleaning cycle, and then return the control to the selected time interval.

Note: If power is removed from Hydromatic™, you must re-select the time interval when you reapply power

Maintenance: No routine maintenance is required, but occasional inspection of the filter basket is recommended. Always close the inlet seacock and shut off power at the breaker panel before removing the cover to inspect the filter basket or shaft seal. To inspect the filter basket unscrew the strainer cover.

Winterization: Drain the pump and filter to winterize – freezing will damage Hydromatic™ and will void the warranty. To drain, remove the black drain plug on the side of the pump/filter base. Replace and tighten the drain plug and/or hose when draining is complete.



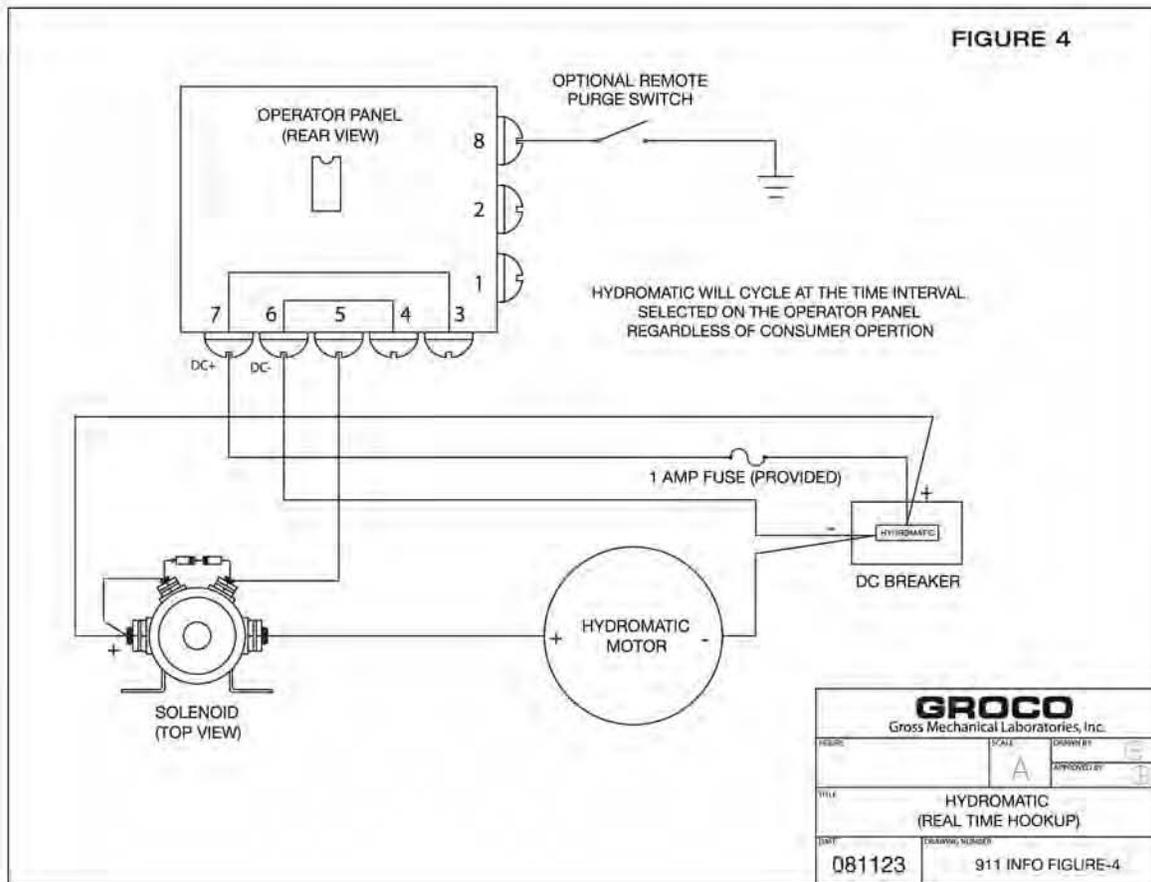
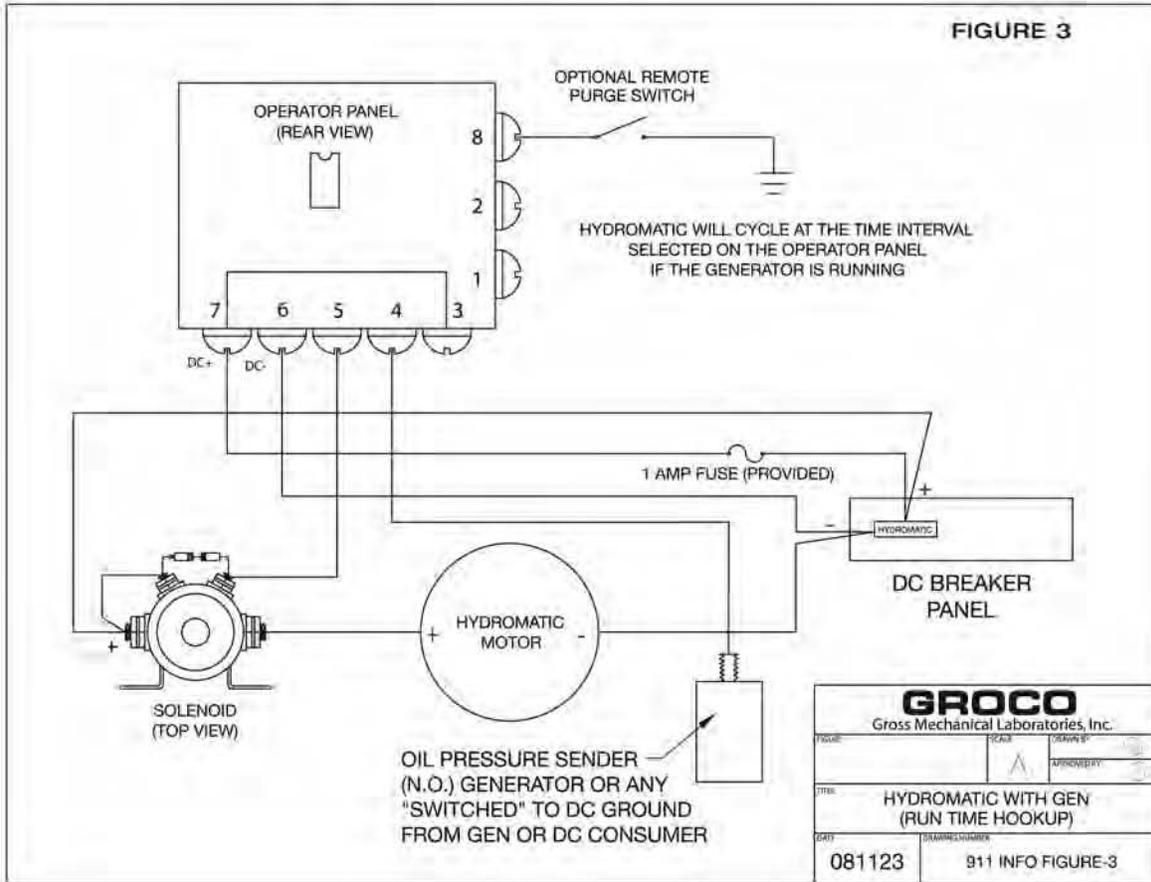
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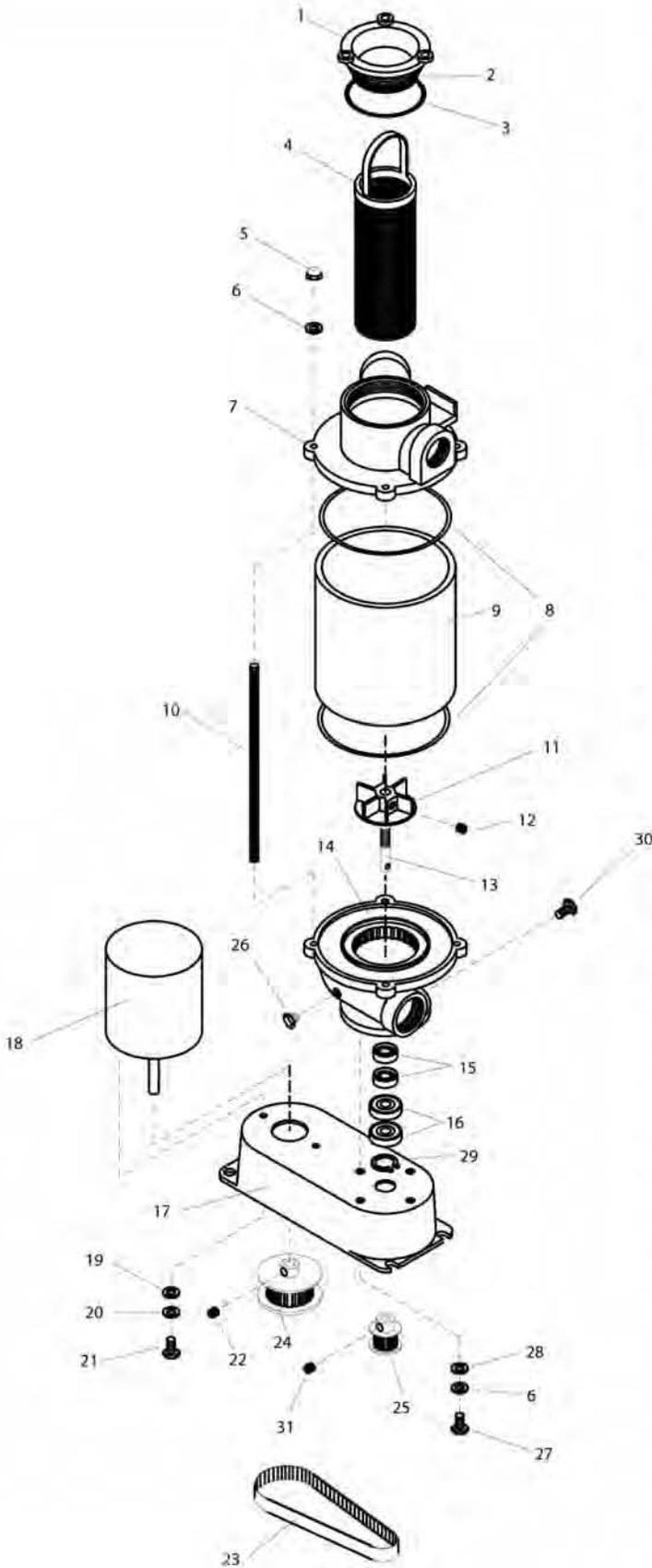
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Item	Part Number	Part Name	Qty	Service Kit
1	ARG-1001-PC	CAP	1	
2	2-229	O-RING	1	*
3	2-232	O-RING	1	*
4	PS-76-D	Filter Basket	1	
5	1420CS	Cap Nuts	4	
6	14SS	Washer	8	
7	053-0911-02	Strainer Head	1	
8	#8R Set	Gaskets	1	*
9	S-77-B	Sight Glass	1	
10	SVS-759	Tie Rod	4	
11-12	05-0911-01	Impeller & Blades	1	
12	14X14SET	Set Screw	1	
13	S-911-A	Shaft	1	
14	053-0911-04	Pump Base	1	
15	031-075-8	Seal	2	*
16	RG-3038-B	Bearing	2	
17	005-0911-00	Platform	1	
18	(Voltage)-Q	Motor	1	
19	10FS	Washer	2	
20	10SSS	Lockwasher	2	
21	1032X58HS	Bolt	2	
22	832X316SSS	Set Screw	1	
23	P-8003	Belt	1	*
24	P-8006	Motor Pulley	1	
25	P-8007	Pump Pulley	1	
26	1827SP	Plug	1	
27	1420X12HS	Bolt	4	
28	14FS	Washer	4	
29	SNAP RING-4	Snap Ring	1	
30	1024X14HB	Bolt	1	
31	632X316SSS	Set Screw	1	
NS	AB-250	Air Bleed Check Valve	1	
NS	008-6103-(Voltage)	Solenoid Assembly	1	
NS	027-0013-00	Operator Panel	1	
	911 Kit	Service Kit		*