Installation, Operation and Maintenance Instructions for

Hydromatic® Self-Cleaning Raw Water Strainer

GROCO®

Models: HSE, HSEF

This package includes:

CONCEPT

As traditional strainers do their work of removing large debris from raw water, the filter basket becomes obstructed necessitating system shutdown for service. Hydromatic eliminates the need for temporary system shutdown by conducting periodic self-cleaning cycles at an interval set by the operator.

Model HSE Hydromatic® Self-Cleaning Raw Water Strainer

GENERAL INSTALLATION

Install the strainer at or below waterline in a vertical orientation. Allow 18" above the strainer for filter basket removal.

Utilize all mount brackets and flanges for full support. Installation above waterline is possible, but not recommended.
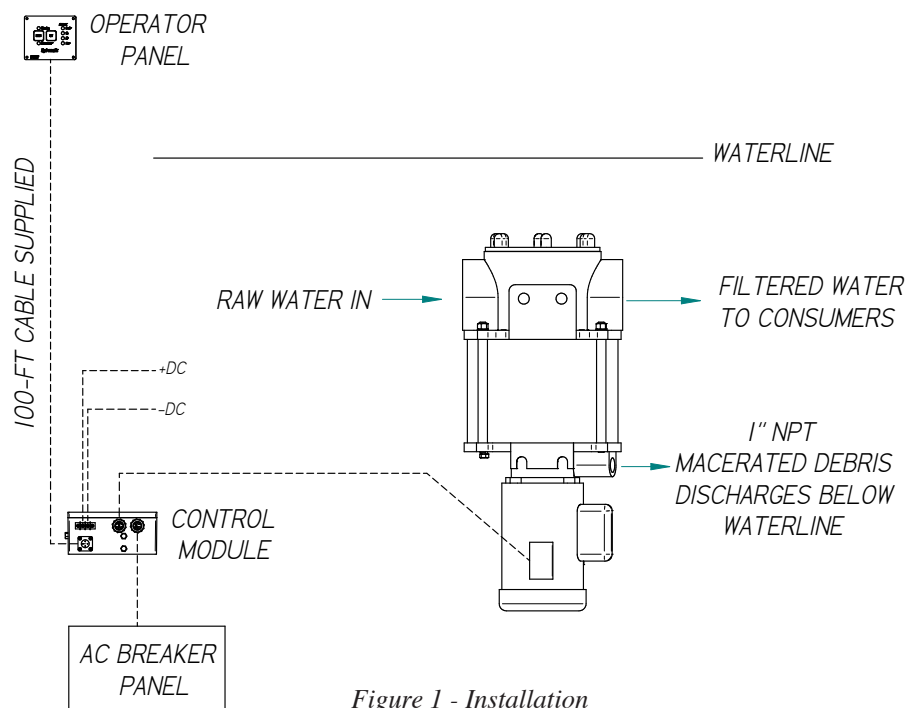

Figure 1 - Installation

For service assistance/information call 410-604-3800 and ask for Hydromatic® Service, or visit www.groco.net

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OPERATOR PANEL INSTALLATION

Refer to Figure-2.
Cut a 3.7" x 2.7" hole to install at the helm or any dry location that is accessible for viewing and settings changes.
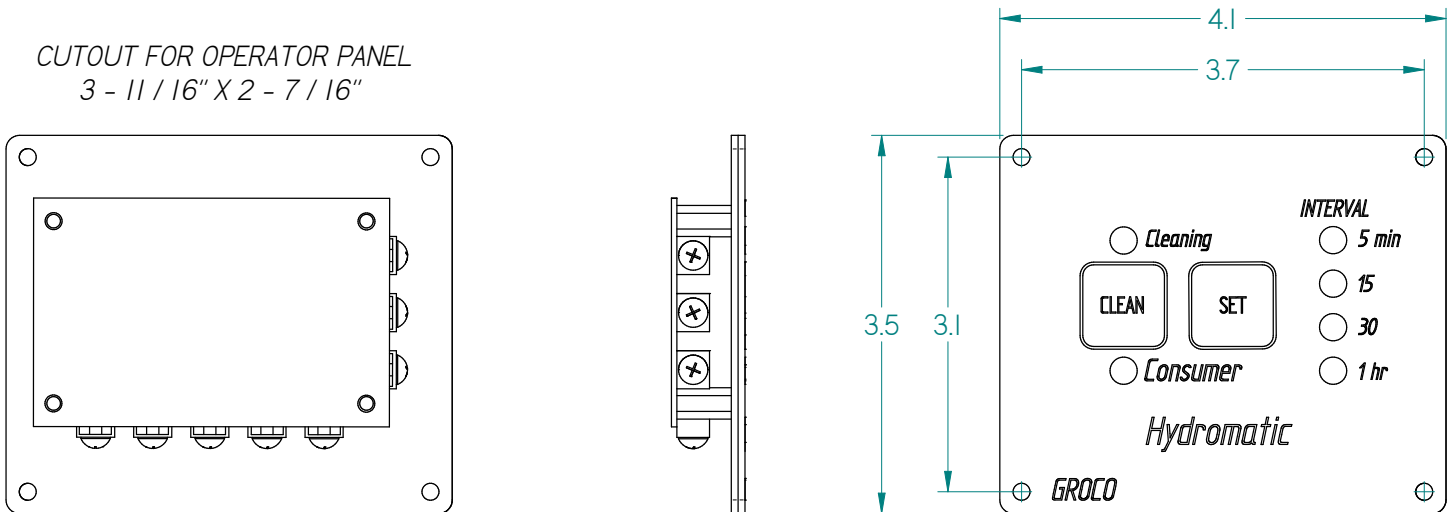

Figure 2 - Operator Panel Installation

CONTROL MODULE INSTALLATION

Install near the strainer unit, above highest bilge water level.

A 100-foot cable is supplied for connection to the Operator Panel.

INSTALLATION WITH GENERATORS

If one of the consumers is a generator, in order to prevent flooding when the vessel is moving but the generator is off a normally closed solenoid valve (SV75 for 3/4" or

SV100 for 1") must be installed. Wire the solenoid valve to a normally open switch that remains closed while the generator is operating.

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ELECTRIC HOOK-UP

Refer to Figure-3. Note that connections for 115VAC
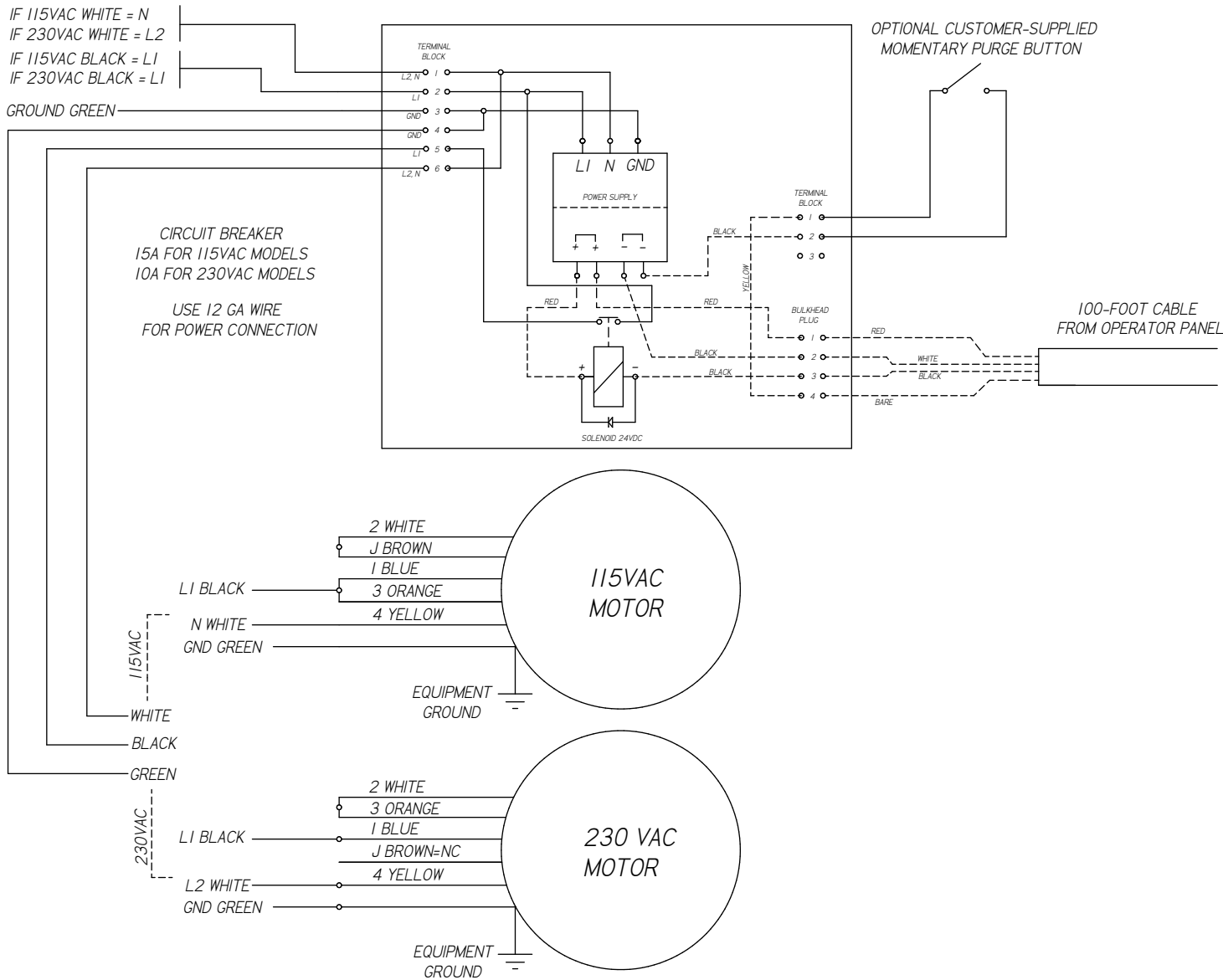models are different than for 230VAC models.

Figure 3 - Electric Hook-up

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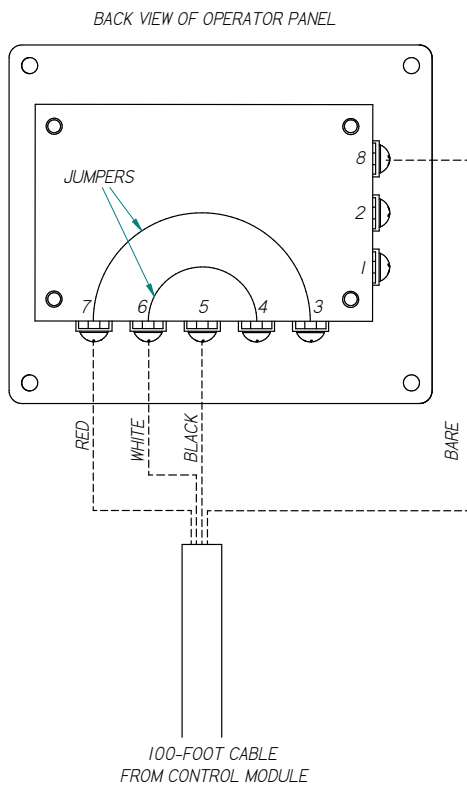# Hydromatic® Self-Cleaning Raw Water Strainer

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Models: HSE, HSEF
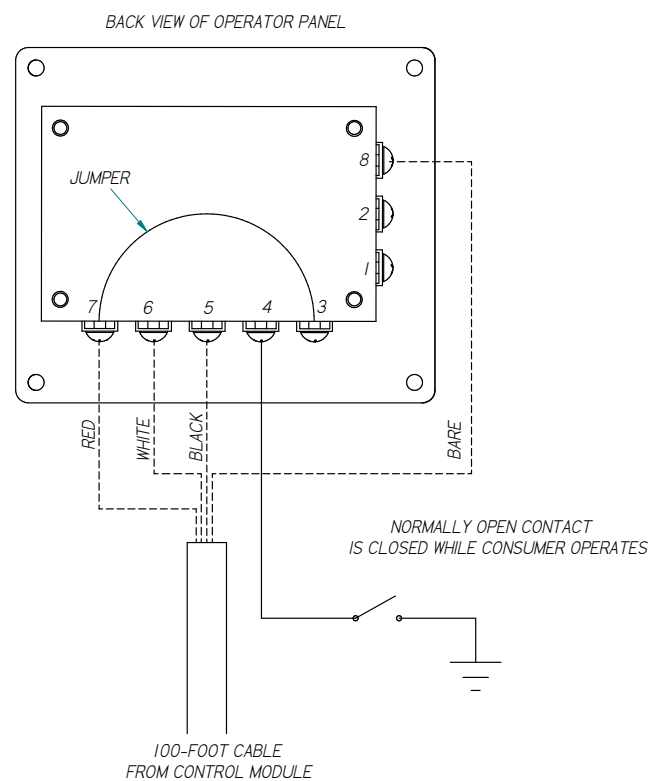
ELECTRIC HOOK-UP OPTIONS

Hydromatic's 30-second cleaning cycles can be initiated by several methods, depending on the consumers that are connected and how you want to configure the system. Six possible methods are shown below.

Additionally, a one-time 30-second cleaning cycle is initiated by pressing a momentary 'purge' switch (not included), as in Figure-3. Operation returns to the previous interval setting after completing the manual cleaning cycle.

Method 1

Cleaning interval is determined by time only, and occurs at the interval selected.

Method 2

Cleaning occurs when the run time equals the selected interval. Run time of the DC consumer connected to Terminal-4 is measured by switching DC ground.
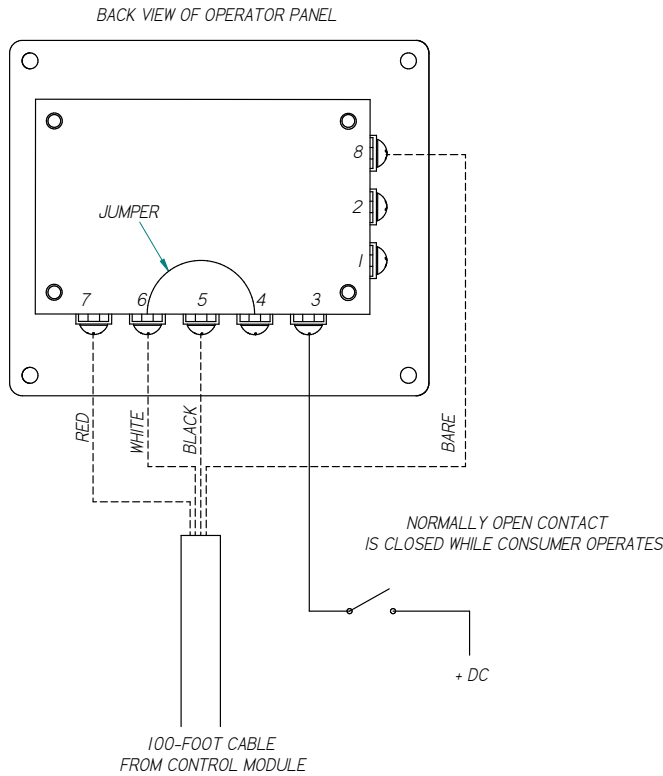

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Models: HSE, HSEF

ELECTRIC HOOK-UP OPTIONS (CONT.)

BACK VIEW OF OPERATOR PANEL

JUMPER

NORMALLY OPEN CONTACT
IS CLOSED WHILE CONSUMER OPERATES

+ DC

100-FOOT CABLE
FROM CONTROL MODULE

Method 3

Cleaning occurs when the run time equals the selected interval. Run time of the DC consumer connected to Terminal-3 is measured by switching +DC.

BACK VIEW OF OPERATOR PANEL

AC MOTOR

AC BREAKER PANEL

100-FOOT CABLE
FROM CONTROL MODULE

Method 4

Cleaning occurs when the accumulated run time equals the interval selected. Run time of the AC consumer connected to Terminals-1 and -2 is measured.

(Electrick Hook-up Options, cont.) →

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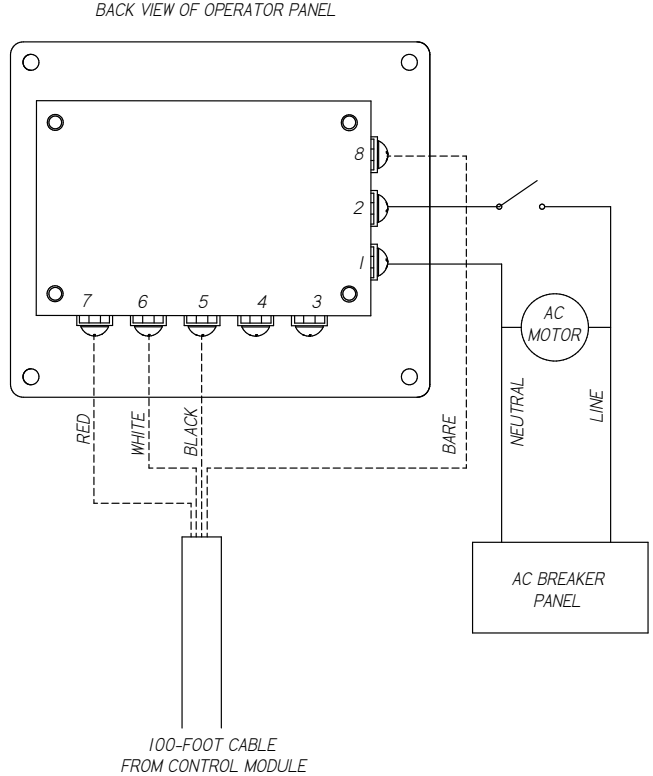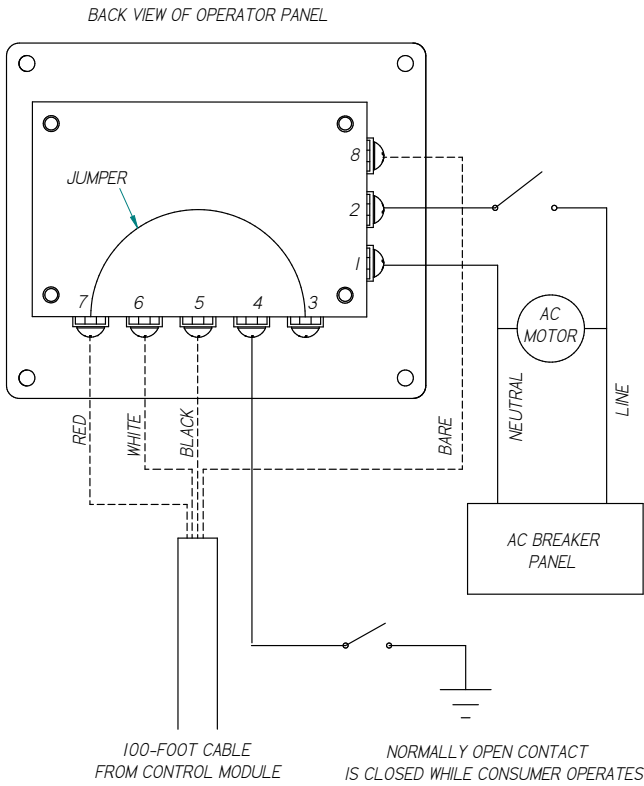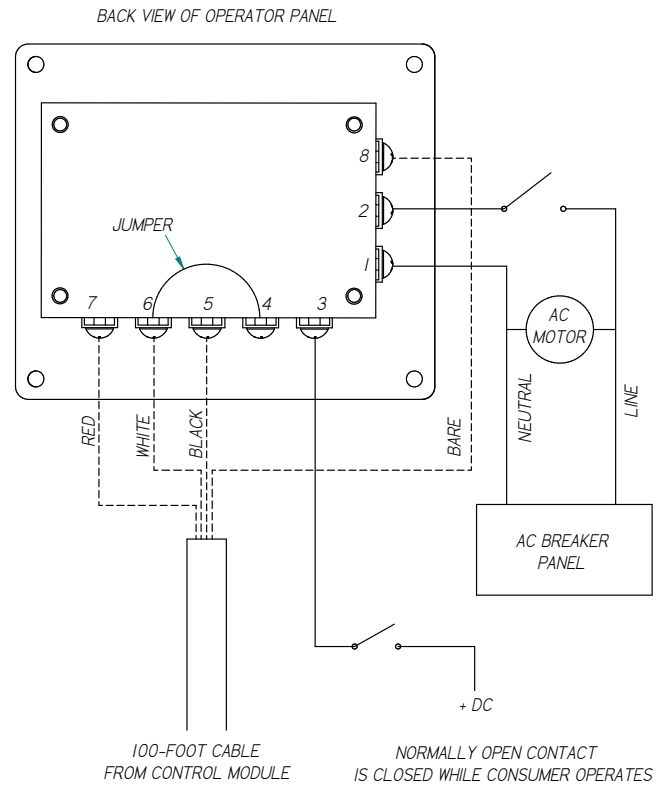
Hydromatic® Self-Cleaning Raw Water Strainer

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Models: HSE, HSEF

ELECTRIC HOOK-UP OPTIONS (CONT.)

BACK VIEW OF OPERATOR PANEL

100-FOOT CABLE FROM CONTROL MODULE

NORMALLY OPEN CONTACT IS CLOSED WHILE CONSUMER OPERATES

BACK VIEW OF OPERATOR PANEL

100-FOOT CABLE FROM CONTROL MODULE

NORMALLY OPEN CONTACT IS CLOSED WHILE CONSUMER OPERATES

Method 5

Cleaning occurs when the combined run time equals the interval selected. Combined run time of a DC consumer connected to Terminal-4 and an AC consumer connected to Terminals 1 and 2 are measured. DC consumer run time is measured by switching DC ground.

Method 6

Cleaning occurs when the combined run time equals the interval selected. Combined run time of a DC consumer connected to Terminal-3 and an AC consumer connected to Terminals 1 and 2 are measured. DC consumer run time is measured by switching +DC.

OPERATION

When power is applied, the operator panel will conduct a self-test, after which all LEDs will be off. No cleaning cycle will occur. Touch "SET" until an LED is illuminated next to the desired interval (5, 15, 30 or 60 minutes).

The 'Consumer' LED will illuminate when the connected consumer is operating.
The 'Cleaning' LED will illuminate during a cleaning cycle.

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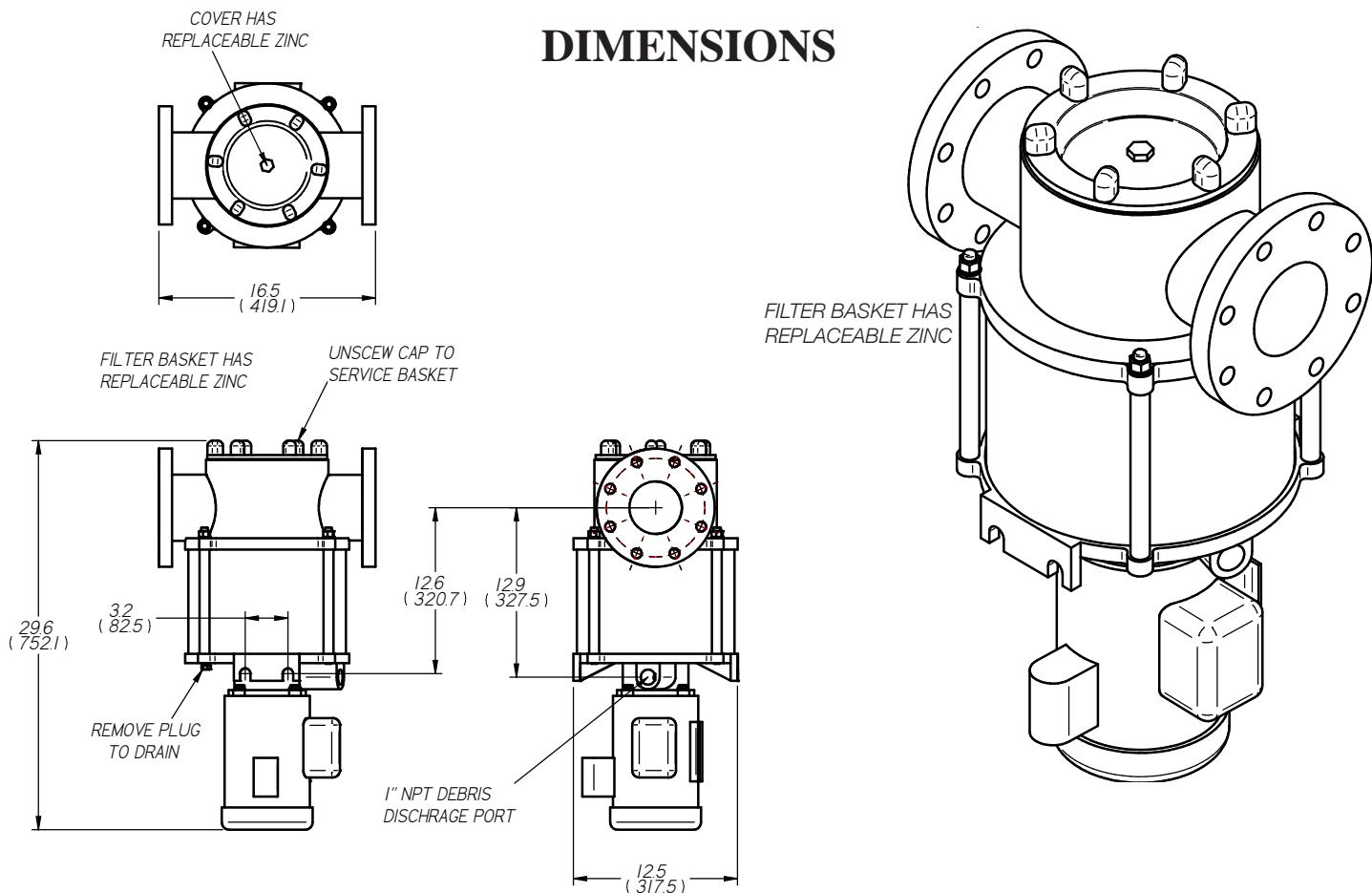## Hydromatic® Self-Cleaning Raw Water Strainer

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CONTINUOUS CLEANING

This option is for use with HSE and HSEF series only. To set the Continuous Cleaning option, press 'Set' 5 times. The interval LEDs will progress from 5 to 15 to 30 to 60 and finally to show all LEDs simultaneously. All LEDs will blink on and off to confirm that the Continuous Cleaning option has been set. Touch 'Set' once more to return to 'OFF'.
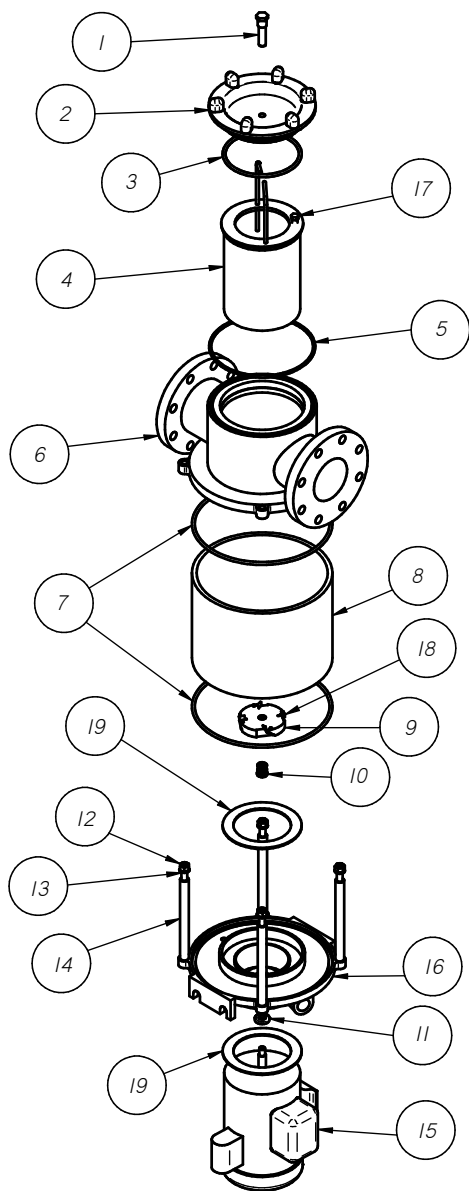
DIMENSIONS

COVER HAS REPLACEABLE ZINC

16.5 (419.1)

FILTER BASKET HAS REPLACEABLE ZINC

UNSCEW CAP TO SERVICE BASKET

FILTER BASKET HAS REPLACEABLE ZINC

29.6 (752.1)

3.2 (82.5)

12.6 (320.7)

12.9 (327.5)

REMOVE PLUG TO DRAIN

1" NPT DEBRIS DISCHRAGE PORT

12.5 (317.5)

MODEL	VOLTAGE	PLUMBING CONNECTIONS DETAILS			INLET/OUTLET	WEIGHT	RATIO OPEN SCREEN AREA TO PIPE
		FLANGE DIA	BOLT CIRCLE	BOLT HOLES			
HSE-4000	115VAC or 230 VAC	4" NPT	N/A	N/A	4" NPT	123	10:1
HSEF-4000	115VAC or 230 VAC	9.0	7.5	.75 X 8	4" ANSI Flange	144	10:1
HSEF-5000	115VAC or 230 VAC	10.0	8.5	.875 X 8	5" ANSI Flange	160	8.1:1
HSEF-6000	115VAC or 230 VAC	11.0	9.5	.875 X 8	6" ANSI Flange	173	6.7:1
HSEF-6001	115VAC or 230 VAC	11.0	8.875	.668 X 12	6" NAVY Flange	173	6.7:1

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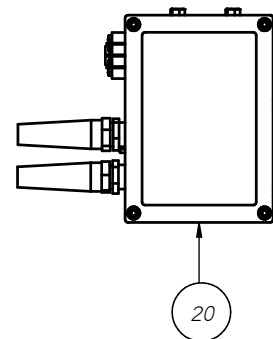
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ITEM	PART NUMBER	DESCRIPTION	SERVICE KIT
1	ZA-2	ZINC ANODE	
2	SE-4001-A	CAP	
3	2-438	O-RING	X
4	HSE-4003-1	BASKET	
5	2-371	O-RING	X
6	SE-4010-H	HEAD, 4" NPT	
	SEF-4010-H	HEAD, 4" FLANGE	
	SEF-5010-H	HEAD, 5" FLANGE	
	SEF-6010-H	HEAD, 6" FLANGE	
	SEF-6011-H	HEAD, 6" 150# FLANGE	
7	2-452	O-RING	X
8	SE-4004	SIGHT GLASS	
	ASE-4004	BRONZE ENCLOSURE	
9	053-0007-01	IMPELLER ASSY	
10	009-0002-00	MECHANICAL SEAL	X
11	063-125-8	OIL SEAL	X
12	1213HS	NUT	
13	12SS	LOCKWASHER	
14	SE-4005-1	SHOULDER BOLT	
15	115VAC11-H1	115VAC MOTOR	
	230VAC11-H1	230VAC MOTOR	
16	053-0456-00	PUMP HOUSING	
17	ZA-1	ZINC ANODE	
18	99-0036-00	CUTTER BLADE	
19	01-0004-50	GASKET	
20	012-0016-11	CONTROL MODULE	
NS	PFW-25	WASHER, HSEF	
	PFW-33	WASHER, HSEF-6001	
NS	027-0016-00	OPERATOR PANEL	
NS	012-0016-11	CONTROL MODULE	
NS	011-0014-99	CABLE ASSY	
NS	PNC-1000	CHECK VALVE	

Exploded View Drawing

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