

# SHURFLO® 3200 MACERATOR PUMP

## INSTALLATION, OPERATION & REPAIR MANUAL

SHURFLO's macerator pump is designed to empty marine and RV holding tanks of normal waste. It is also an excellent choice for emptying fish boxes of scales and residual waste. A flow rate of up to 13 gallons per minute conveniently empties any tank in minutes. The unique dual-cut blade design ensures waste is ground up thoroughly. The pump is self-priming to a five foot lift when impeller is wet, four foot lift when impeller is dry, but for optimum performance and life, it should be mounted as close to the tank as possible. Marine pump out must be in proper discharge zones only. This macerator will not handle hard objects, rags, or feminine napkins.

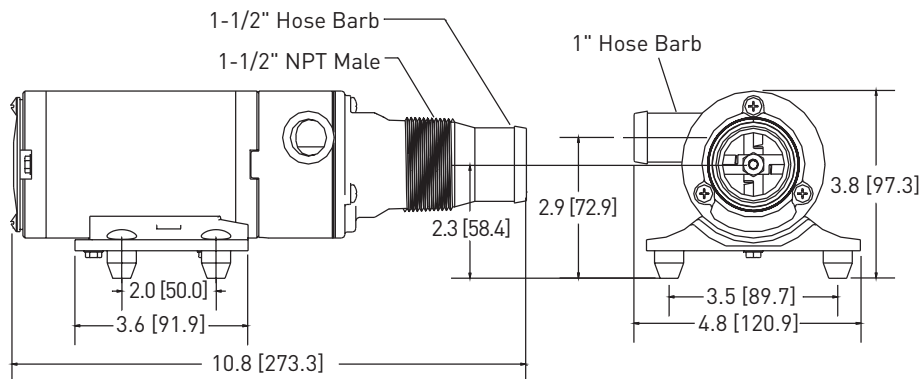
### PRODUCT SPECIFICATIONS



<b>Motor:</b>	Seamless can motor, 1/8 hp Thermally protected
<b>Lead Wires:</b>	14 GA
<b>Fuse:</b>	See motor label for fuse size
<b>Pump Type:</b>	Flexible Impeller
<b>Duty Cycle:</b>	Intermittent duty only
<b>Ports:</b>	Inlet: 1-1/2" hose barb & 1-1/2" NPT Male Outlet: 1" hose barb
<b>Impeller:</b>	Brandonite®
<b>Blade:</b>	316 stainless "Double-cut"
<b>Dimensions:</b>	See drawing
<b>Weight:</b>	5 lbs.
<b>Approvals:</b>	Ignition protected, ISO 8846, CE, and CSA, models available
<b>Typical Flow:</b>	Dependent on fluid viscosity (Chart below based on water)

HEAD	FLOW GPM [LPM]		MAX. DC AMPS	
Ft. [m]	12 V	24 V	12 V	24 V
0 [0]	13 [49]	13 [49]	17	9

Max. Operating Head = 30 feet



## ELECTRICAL CONNECTIONS

**WARNING:** If the pump is operated in an area containing flammable vapors, the wire leads must be joined by insulated mechanical locking connectors. Loose or inadequate wire connections can spark, resulting in an explosion resulting in property damage, injury, or death. All electrical installations should be done by a qualified electrician.

■ Pump must be protected with proper size fuse as specified on the motor label.

■ Pump should be operated on a separate circuit.

■ Pump should be connected to properly sized momentary switch. This prevents pump from damage due to long periods of dry run condition.

■ Switch should be near pump. This will allow operator to hear change in pump sound when tank is empty.

**NOTE:** For proper operation motor must rotate counterclockwise when viewed from pump end.

### ELECTRICAL INSTALLATION CHECKLIST

- ✓ Separate circuit from power source
- ✓ Proper size momentary switch mounted near pump
- ✓ Proper wire size to length
- ✓ Proper fuse size and type
- ✓ Insulated wire connectors

12 Volt System Total Wire Length*	Min. Wire Size (20 Amps)	
	3% Drop	10% Drop
Feet [m]	GA	GA
1-10 [.3-3]	#10	#16
11-20 [3.3-6]	#8	#14
21-30 [6.4-9.1]	#6	#12
30-60 [9.1-18.2]	#4	#10

\*length from power source to motor and back to ground.

## PLUMBING CONNECTIONS

Pump should be mounted as near as possible to tank to minimize dry run. Pump is self-priming to a five-foot lift when impeller is wet, four foot lift when impeller is dry. Pump is more efficient if mounted near the holding tank. Installations should be done by qualified marine tech.

**INLET:** Always install pump with a shut-off valve between pump and holding tank.

**Hose:** Use 1-1/2" ID [non-collapsible vacuum rated] hose on inlet [suction] side. Use stainless steel hose clamps on all sanitation connections.

**Flange:** To mount to 1-1/2" female flange, inlet barb must be cut off just before threads. Seal threads and hand tighten.

**WARNING:** Any air leak on inlet side can cause pump to run dry and can damage impeller and impeller housing. Check all inlet side connections, even those on deck plates. All runs should be smooth with no kinks or sharp angles.

**AVERTISSEMENT:** Une fuite d'air sur le côté aspiration peut causer le tournage à sec de la pompe et endommager la turbine et le boîtier de turbine. Vérifier tous les raccordements sur le côté aspiration, même ceux sur les plaques de plateforme. Tous les parcours doivent être lisses, sans tortillement ni angle aigu.

**OUTLET:** Use 1" minimum ID hose on discharge side of pump. Connect to thru hull fitting above highest heeled point above waterline. Vented loop installations must vent at least 10" above highest heeled point above waterline. Use stainless steel hose clamps on all sanitation connections.

### Operation: INTERMITTENT DUTY ONLY!

Pump switch must be near pump and tank so operator can hear pump running.

Make sure shut-off valve to pump and dump valve [if equipped] are both open. Turn on momentary switch and pump out tank. When tank is empty, pump will get louder with a high pitch sound. Immediately turn pump off, or damage to impeller and housing will occur. Do not run pump dry for more than 15 – 20 seconds. Flush tank and pump with water after each use. This macerator will handle normal waste, tissues, cigarettes, fish scales, etc. It is not designed to handle large hard objects such as large bones or fruit pits.

**Periodic Maintenance and Storage:** Flush with water after each use. Check wire connections occasionally. After periods of non-use, impeller can stick. To loosen, open rear shaft cover and turn motor shaft clockwise with a flat tip screwdriver. Then replace shaft cover. For extended periods of non-use, pump impeller can be lubricated by running a small amount of mineral oil through holding tank system.

## PARTS & KITS LIST

Item	Description	Qty.
1	Cover Screw	3
2	Cutter Housing	1
3	O-Ring	1
4	Hex Nut	1
5	Top Cutter	1
6	Bottom Cutter	1
7	Top Wear Plate	1
8	Gasket	1
9	Impeller	1
10	Bottom Wear Plate	1
11	Impeller Housing	1
12	Shaft Seal	1
13	Slinger	1
14	Motor Assembly	1
15	O-Ring	1
16	Rear End Shaft Cover	1
17	End Cap Screw	2
18	Baseplate Assembly	1
19	Hex Bolt	2

## MAINTENANCE TURN OFF ALL POWER!

### REAR END CAP/ MOTOR SHAFT SLOT ACCESS

Loosen end cap screws (17). Rotate shaft cover (16) to access slot on motor shaft.

### PUMP DISASSEMBLY

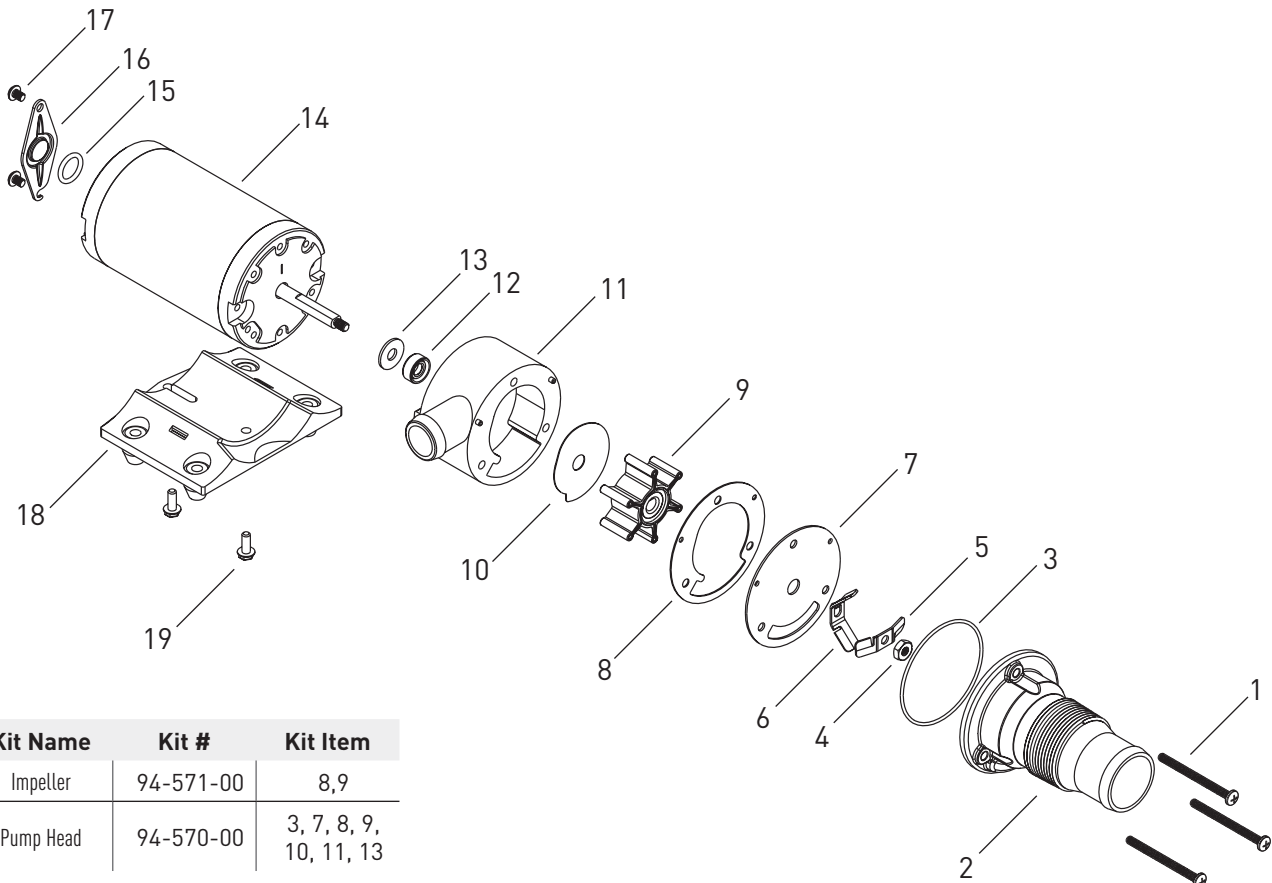
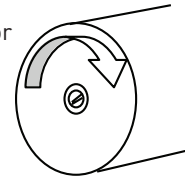
Remove 3 cover screws (1). Remove cutter housing (2) and o-ring (3). Remove hex nut (4) and cutter blades (5) & (6). It may be necessary to hold the motor shaft steady. Insert a screwdriver into slot on motor shaft (see slot access above), or slip a thin wrench (9/32" [7mm]) behind blades onto flat of motor shaft. Remove top wear plate (7), gasket (8), impeller (9) and bottom wear plate (10). Remove impeller housing (11) and shaft seal (12). It is not necessary to remove slinger (13).

### PUMP REASSEMBLY

Make sure slinger (13) is on shaft. Make sure shaft seal (12) is inserted properly into rear of impeller housing (11). Slide impeller housing (11) onto motor shaft. Seat bottom wear plate (10) into housing. Twist impeller (9) onto shaft and into housing with a counterclockwise motion. Install gasket (8) and top wear plate (7). Install cutter blades (6) & (5) with tab on bottom blade aligned with motor shaft flat. Secure motor shaft with screwdriver or wrench (9/32" [7mm]) and tighten hex nut (4). Position o-ring (3) and cutter housing (2) in place, and install cover screws (1).

### MAINTENANCE TIP!

Loosen stuck impeller by turning motor shaft clockwise from rear with a flat-tipped screwdriver.



Kit Name	Kit #	Kit Item
Impeller	94-571-00	8,9
Pump Head	94-570-00	3, 7, 8, 9, 10, 11, 13