



# Model 18590-Series

a xylem brand

## MACERATOR PUMP WITH RUN-DRY PROTECTION

### FEATURES

Pump: Self-Priming Flexible Impeller with Stainless Steel Wearplate

Impeller: Jabsco Nitrile compound

### NEW

Macerator: Stainless Steel Cutter reduces particle size to 1/8" (3mm) maximum. New 4 blade design.

Seal: Lip Type

Ports: Inlet - 1-1/2" (38mm) Hose Barb and 1-1/2" N.P.T. (Male)

Outlet - 1" (25mm) Hose Barb

### NEW

Motor: Permanent Magnet Type, Fully Enclosed, with Stainless Steel Shaft Includes Run-Dry Protection Device that shuts-off pump. Powder coated housing with sealed end-bells and bearings.

**Complies with USCG Regulation 183.410 and ISO 8846 MARINE for Ignition Protection.**

Weight: 5 lb (2.3 kg) Approx.

### SPECIFICATION

Priming - 5ft When Wet  
4ft When Dry

### HEAD CAPACITY AND FLOW RATES

Head Ft	Meters	GPM	Liters	AMPS	
				12 Volt	24 Volt
0	0	12.5	47	14.0	7.6
5	1.5	11.5	44	14.5	7.8
10	3	10.5	40	15.0	8.1
15	4.5	9.0	34	16.0	8.6
20	6	7.5	28	16.5	8.9

† Flow rates and amperage will vary slightly depending on pump loading (sanitation system design).

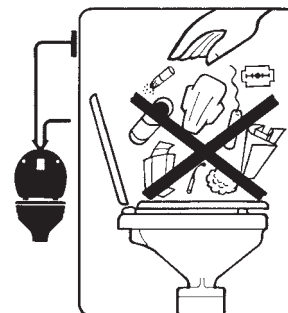
### VARIATIONS AVAILABLE

MODEL NO.	DESCRIPTION
18590-2092	12 Volt EMC
18590-2094	24 Volt EMC



Grinding Capabilities - capable of grinding waste down to a particle size of 1/8" (3mm) max.

Capable of passing waste, toilet tissue, fish scales or bait residue. Not designed to pass rags, kitchen towels, tampons, wet wipes or sanitary napkins.



### APPLICATIONS

#### WASTE EVACUATION

The Jabsco 18590 series DC macerator pump unit is the ideal solution for emptying marine holding tanks when not in a discharge restricted area. Self priming to 5ft this pump will empty a typical 30 gallon (115 Liter) holding tank in less than 3 minutes. Duty cycle of the pump is 15 minutes continuous which means a 180 gallon (680 liter) can be emptied in a single operation

It is recommended that holding tanks be flushed with several gallons of water after each pump out. This will reduce the possibility of a continued build up of sediment in the tank which could cause a potential blockage.

#### FISH BOX AND LIVEWELL TANK EVACUATION

The Jabsco Macerator Pump is the ideal pump for the emptying of Fish box and livewell receptacles. Very often the livewell tank will be above the waterline of the boat, when this is the case gravity can be used to empty the livewell tank. If not installed in this format then it is beneficial to use the Jabsco macerator pump for evacuation due to its self-priming capabilities and also it's grinding properties.

Fish boxes are typically mounted into the floor of the vessel and are very often below the waterline or only partially above the waterline. Again the Jabsco Macerator pump has the characteristics that lend themselves to this application. The bait residue particles of ice, fish scales and anything else that could potentially be found in the Fish-Box will be easily passed by the Jabsco Macerator Pump, and the self priming capabilities are perfect for fish box installations common to many of today's sports fishing boats.

### GENERAL INSTALLATION SUGGESTIONS

The pump can be mounted in any orientation without loss of performance. It is however recommended that if the pump is mounted vertically then the pump head be mounted below the motor (pump head facing downwards)

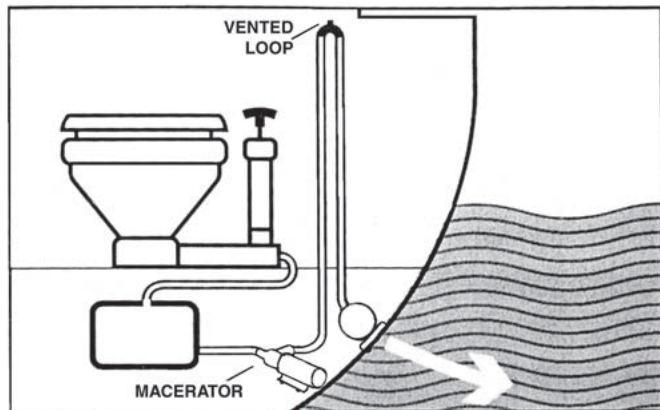
Use the rubber grommets provided to absorb vibration

The Macerator pump can be screwed directly into a 1-1/2" (38mm) NPT tank flange or female pipe fitting. If attaching the inlet port to a pipe fitting it may require removal of the hose barbed port, this can be done using a hacksaw. Wrap port threads with a couple of wraps of Teflon tape and screw the pump assembly into the pipe fitting. Tighten hand tight, do not over tighten.

Please Note: An air leak anywhere in the suction side of the plumbing system can cause extended dry running. All suction connections must be air tight and free of sharp bends or restrictions. If a deck fitting is installed for dockside pump-out and connected to the suction hose of the macerator by means of a tee fitting (without a Y-Valve), it too must be air tight to ensure proper priming.

Use minimum 1" (19mm) ID hose for discharge and connect to thru-hull fitting located approximately 4-6 inches above waterline.

**NOTICE:** The discharge thru-hull may be positioned below the waterline only if the discharge hose has a vented loop fitting installed at least 8" above the waterline at all angles of heel or trim. Consult with a qualified marine plumber.



### INSTALLATION FOR WASTE APPLICATIONS

Although the Jabsco Macerator pump can be installed at any convenient point in the waste discharge system, it is recommended that it be installed as close to the holding tank as possible, this will increase the performance of the pump. It is also recommended that the switch used to control the macerator be mounted close enough to the pump that it can be heard whilst in operation, this will allow the operator to hear a change in pump noise when the unit has finished pumping the tank dry. The pump then should be turned off; this will further increase the life of the pump.

### INSTALLATION FOR FISH BOX AND LIVEWELL APPLICATIONS

As with the waste application the Jabsco Macerator Pump can be installed at any convenient point between the fishbox/livewell receptacle and the discharge port. It is recommended that it be installed as close to the tank as possible, this will increase the performance of the pump. It is also recommended that the switch used to control the macerator be mounted close enough to the pump that it can be heard whilst in operation, this will allow the operator to hear a change in pump noise when the unit has finished pumping the tank dry. The pump then should be turned off; this will further increase the life of the pump.

### ELECTRICAL

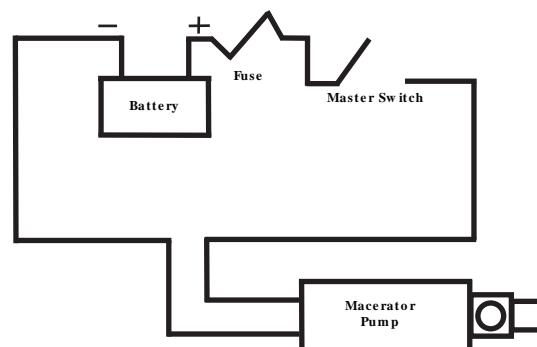
Wire the unit in an Independent Circuit  
Consult the wiring table for fuse and wire size  
Consult the wiring diagram for connections

### WIRING TABLE

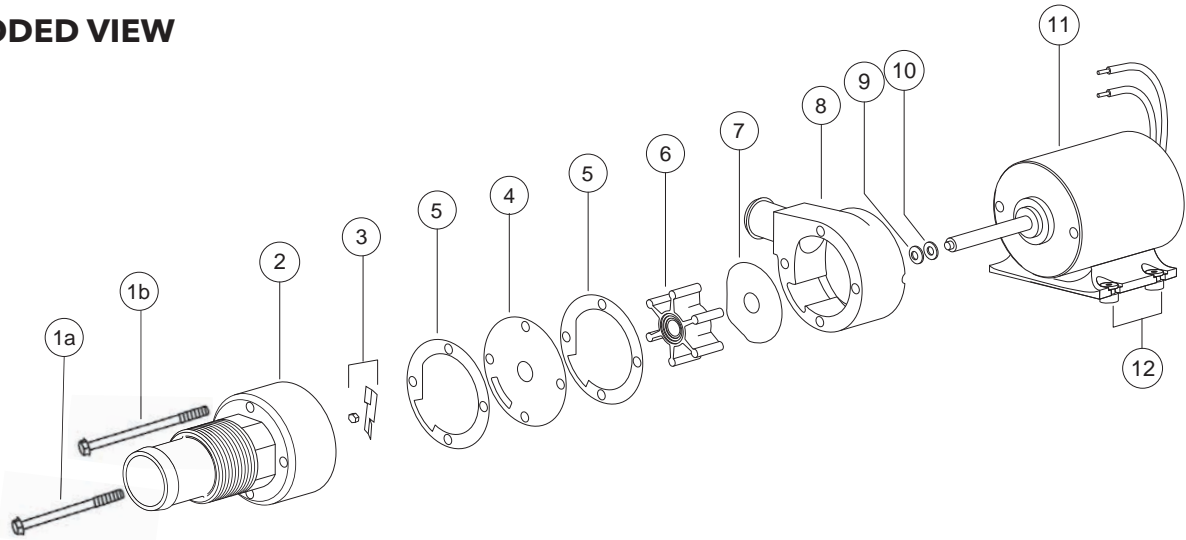
VOLTAGE	AMP DRAW	FUSE SIZE	WIRE SIZE PER FEET OF RUN*				
			0'-10'	10'-15'	15'-25'	25'-40'	40'-60'
12 Vdc	16	20	# 16(1.5)	# 14(2.5)	# 14(2.5)	# 12(4)	# 6(16)
24 Vdc	8	15	# 18(1)	# 16(1.5)	# 16(1.5)	# 14(2.5)	# 10(6)

\* Length of run is total length of the circuit from the power source to product and back to ground. Wire sizes listed are SAE gauge and metric millimeters.

### Wiring Diagram



## EXPLODED VIEW



## PARTS

Key	Description	Qty.	Part No.
1a	Bolt Short	2	See bolt kit
1b	Bolt Long	2	See bolt kit
2	Macerator Housing	1	18594-1000
3	Chopper Plate with Locknut	1	37056-2000
4	Wearplate, Large	1	18597-1000
5	Gaskets (2 each per kit)*	1	18596-1000
6	Impeller*	1	6303-0003
7	Wearplate, Small	1	12316-1002
8	Body*	1	18593-1000
9	Seal*	1	1040-0000
10	Slinger	1	6342-0000
11	Motor 12 Volt	1	17246-1012
	Motor 24 Volt	1	17246-1024
12	Grommets (Set of 4)	1	92900-0120
	Service Kit	1	18598-1000
	Bolt Kit	1	17288-1000

\*These parts are supplied in 18598-1000 Service Kit.

### Tools required for Macerator Service

- 5/16 wrench or nut driver
- 7/16 wrench or nut driver
- Medium strength Loctite ( Blue )
- Sharp blade to remove old gasket material
- Marker to make an alignment mark

### Macerator Servicing

1. Use marker to make an alignment mark on the macerator housing (key 2) the large wear plate (key 4), the body (key 8) and the motor (key 11).
2. Remove 4 bolts (key 1a & 1b) from the macerator housing (key 2), using a 5/16 wrench.
3. Remove the macerator housing (key 2) from the body.
4. Remove the nut and chopper plate (key 3) using a 7/16 wrench from the motor shaft. The shaft can be prevented from turning by inserting a flat blade screw driver into slot at the opposite end of the motor. (rubber cap may need to be removed.)

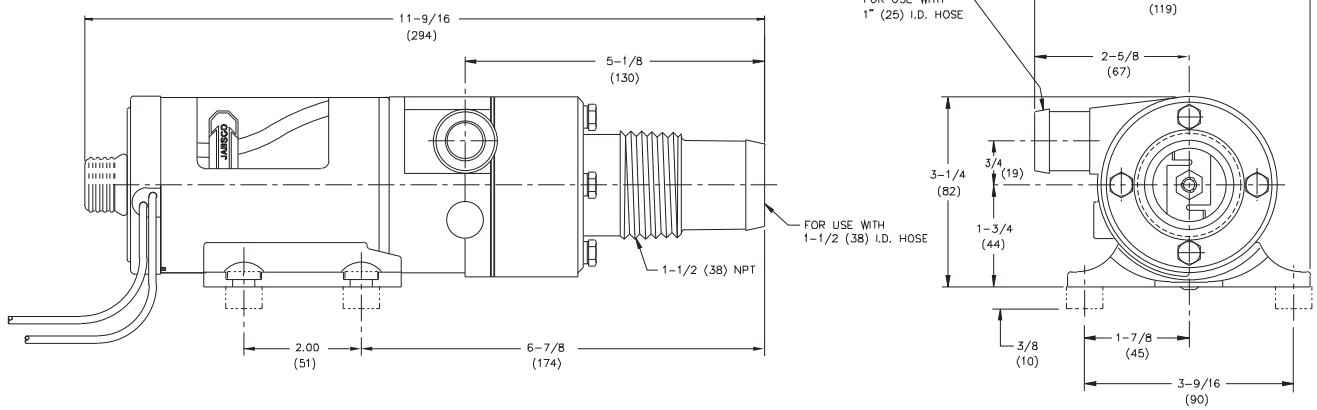
5. Remove the 2 paper gaskets (key 5) and the large wear plate (key 4) from between the macerator housing (key 2) and the body (key 8). Clean off old gasket material from the large wear plate (key 4) using a sharp blade and save the wear plate.
6. Remove the body (key 8) from the motor (key 11).
7. Discard the body (key 8), the impeller (key 6) and the small wear plate (key 7).
8. Remove the slinger (key 10) from the motor shaft and save.

**Note:** If reconditioning macerator pump with a service kit, (Part No.18598-1000), it is not necessary to remove the slinger when servicing the pump.

### Macerator Assembly

1. Install the slinger (key 10) onto the motor shaft.
2. Install the body (key 8) onto shaft with the discharge in the desired direction.
3. Install the small wear plate (key 7) into the body (key 8).
4. Install a new impeller (key 6) into the body (key 8) by flexing the blades to either side. The blades will correctly orientate themselves when the pump is turned on.
5. Install first gasket (key 5), the large wear plate (key 4) followed by the second gasket (key 5). Align the gaskets and the wear plate with the cut-out on the body.
6. Align the chopper plate (key 3) with the drive tab and the flat section on the motor shaft.
7. Install the nut (key 3) onto the motor shaft. Hold the shaft with a flat blade screw driver, on the opposite side of the motor, to prevent the shaft from turning when tightening the nut. Torque the nut to 18-20 in/lbs. using a 7/16 wrench.
8. Install the macerator housing (key 2) over the chopper plate (key 3). Add Loctite to all of the bolts and line up the holes for the macerator housing (key 2), gaskets (key 5), large wear plate (key 4), and the body (key 8) to the motor (key 11).
9. Be sure to align all of the alignment marks made using the marker during disassembly.
10. Tighten all 4 bolts on the macerator housing using a 5/16 wrench. Torque all bolts to 16-18 in/lbs.

## DIMENSIONAL DRAWING Inches (Millimeters)



### Service kits

- 18598-1000 includes 2 gaskets, Impeller, Body with seal in stalled and the small wear plate.
- 17288-1000 Includes 4 stainless Steel bolts.

### Macerator Pump Stud Change

#### Tools needed for stud change to bolts

- 3/8 wrench
- 5/16 wrench or nut driver
- Needle nose vice grips
- Medium strength Loctite (Blue)
- Sharp blade to remove the old gasket material
- Marker to make an alignment mark

#### Process to change the studs to bolts

There are 2 different lengths of bolts.

**Ensure you match up the old studs to the correct length bolts. 2 bolts are 3 inches long and the other 2 bolts are 3 3/4 inches long.**

Remove one stud at a time to ensure no movement of the housing and gaskets.

1. Use marker to make an alignment mark on the macerator housing, the body and the motor.
2. Remove acorn nut and fiber washer from studs using a 3/8 wrench (these parts may be discarded).
3. Remove stud from housing, body and motor using vice grips.
4. Add Loctite to the new bolt and install into housing, body and motor.
5. Repeat the same process for all 4 bolts.
6. Tighten all 4 bolts using a 5/16 wrench to 16-18 lb-in.
7. Check for leaks.

### TROUBLESHOOTING

#### PUMP DOES NOT START:

**Impeller bound-up** - Insert screwdriver in slot of shaft at motor's rear end bell and rotate clockwise.

**No electrical power to pump or low voltage** - With a voltage tester, check power to pump. The pump must have full voltage checked while pump is running. If it hasn't started, see wire size recommendations and check for poor or corroded electrical connections.

#### PUMP RUNS BUT DOES NOT PUMP:

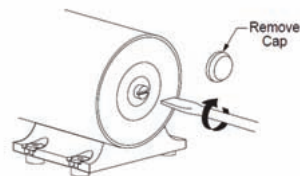
**Lack of priming** - Check all plumbing connections to ensure they are airtight. If a waste deck plate is connected to pump suction hose by a "Tee" fitting, the deck plate must also be airtight.

**Worn impeller\*** - Replace flexible impeller.

\*A worn impeller may be a likely cause if the Run-Dry Protection Device has often been allowed to shut-off the pump.

After long periods of nonuse, the flexible impeller may stick to the pump body preventing the macerator pump from turning freely. If this occurs, the impeller can be broken free by removing the rubber cap on the shaft at the rear end of the motor, inserting a screwdriver in the slot and rotating the shaft clockwise a quarter turn or more. When impeller is broken free, reinstall the plastic cap on the motor shaft.

#### MOTOR ILLUSTRATION



[www.jabsco.com](http://www.jabsco.com)

**Jabsco**, 100 Cummings Center, Ste. 535-N, Beverly, MA 01915  
Tel: +1 978 281 0440 Fax: +1 978 283 2619

**Jabsco**, Bingley Road, Hoddesdon, Hertfordshire, EN11 0BU  
Tel: +44 (0) 1992 450 145 Fax: +44 (0) 1992 467 132

**NHK Jabsco Co Ltd**, 3-21-10, Shin - Yokohama Kohoku-ku, Yokohama 222  
Tel: +81 (0) 45 475 8906 Fax: +81 (0) 45 475 8908

**Jabsco GmbH**, Oststraße 28, 22844 Norderstedt  
Tel: +49 (0) 40 53 53 73 0 Fax: +49 (0) 49 53 53 73 11

**Jabsco Italia, s.r.l.**, Via Tommaseo, 6, 20059 Vimercate, Milano  
Tel: +39 039 685 2323 Fax: +39 039 666 307

USA

UK

JAPAN

GERMANY

ITALY



a xylem brand