

MARTIN 100 SERIES 1/3 - 3 HORSEPOWER BRASS PUMP OWNER'S MANUAL



MARTIN *Pump*



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MARTIN 100 SERIES BRONZE PUMP

Introducing a revolutionary new pump guaranteed virtually maintenance-free and easy to install

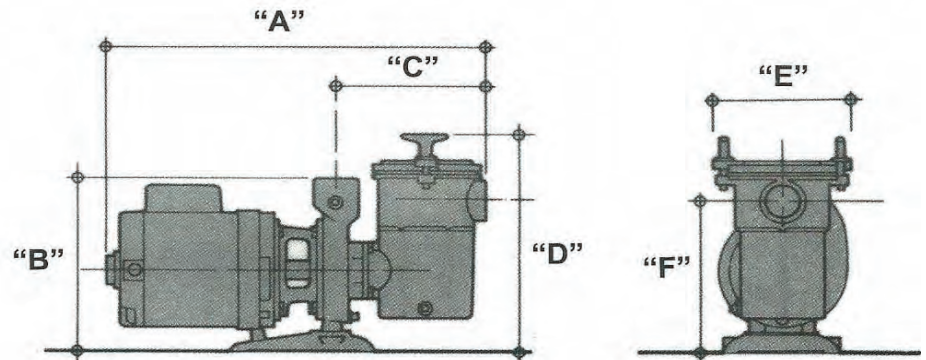
The Martin 100 Series bronze alloy is produced from a special bronze alloy, offering the best quality at a low cost. It is the perfect bronze pump for any spa or pool application.

Pressure tested for maximum performance quality, Martin Pump's improved pump design has a self-priming feature built in. The unique improved design of the 100 Series Pump maximizes:

- **performance**
- **durability**
- **resistance to chemicals**
- **resistance to corrosion**
- **reliability**
- **flow rate**
- **quiet operation**

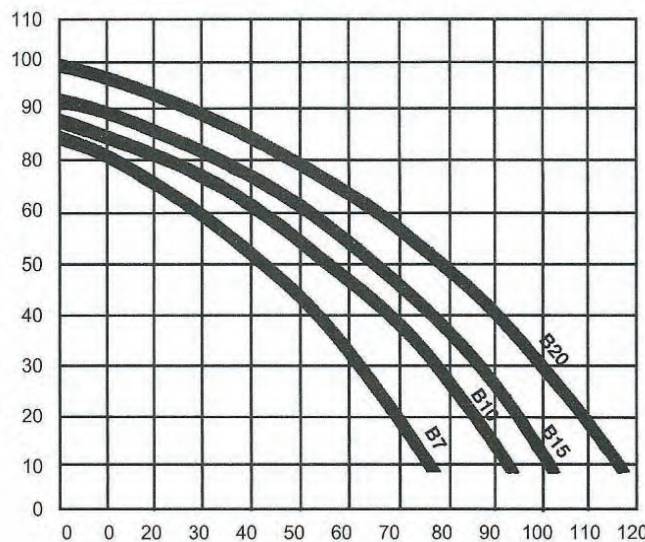
The 100 Series is available with 5" and 6" traps and features all stainless steel fasteners.

Liquid End Pump and motor can be sold separately!



MODEL	HP	MOTOR VOLTAGE	DIMENSIONS						WEIGHT
			A	B	C	D	E	F	
MB-107	.75	115/230	20.5"	10.0"	8.5"	12.5"	7.5"	8.5"	49 lbs.
MB-101	1.0	115/230	20.75"	10.0"	8.5"	12.5"	7.5"	8.5"	52 lbs.
MB-115	1.5	115/230	21.5"	10.0"	8.5"	12.5"	7.5"	8.5"	57 lbs.
MB-120	2.0	230	23.5"	10.0"	8.5"	12.5"	7.5"	8.5"	66 lbs.

"B" PERFORMANCE CURVE



CAPACITY IN GALLONS PER MINUTE
Curve based on 3450 RPM impeller speed. 50 cycle units available

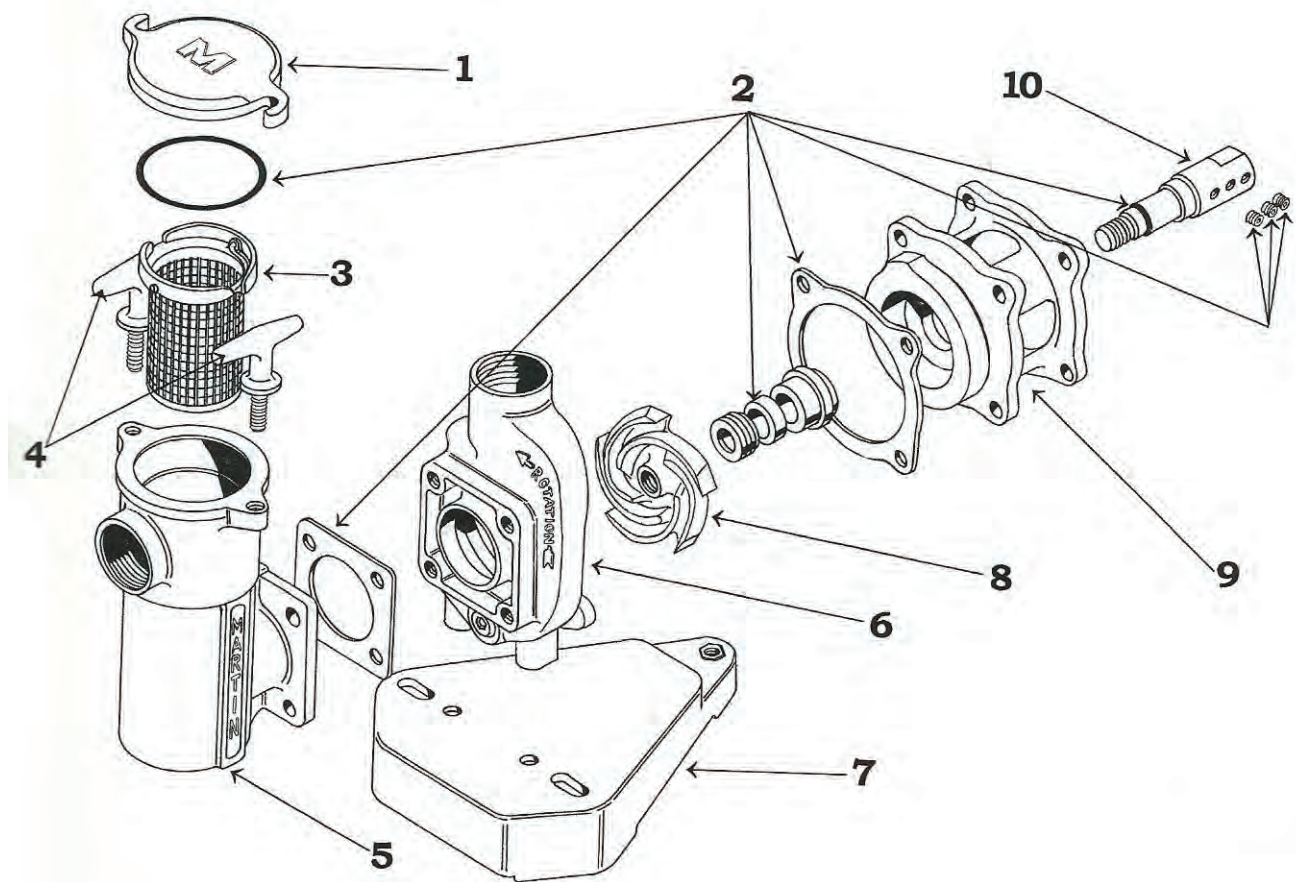
MOTOR FEATURES

- 56 frame industrial quality.
- 3 year warranty
- Consistent power to promote superior water circulation and filtration
- Safety feature protects against overload
- Open-faced bronze impeller
- Standard drip-proof seal minimizes seal burnout and provides easy replacement



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MARTIN 100 SERIES 1/3 - 3 HP BRASS PUMP EXPLODED VIEW



KEY NO.	PART DESCRIPTION	VAL-PAK #
1	5" Brass Pump Lid	V40-463
2	Parts Kit (inc. seal, gaskets, o-rings, set screws)	V40-481
3	5" Pump Basket	V40-465
4	Tee Handle, Bronze w/ S.S. Stud	V40-468
5	5" Brass Trap w/ 2" NPT	V40-464
6	Brass Volute	V31-458
7	Pump Base (ABS Plastic)	V40-467
7	Pump Base (Aluminum)	V40-485
8	1/3 Horsepower Impeller	V40-452
8	1/2 Horsepower Impeller	V40-453
8	3/4 Horsepower Impeller	V40-454
8	1 Horsepower impeller	V40-455
8	1 1/2 Horsepower Impeller	V40-456
8	2 Horsepower Impeller	V40-457
9	1/3 - 3 Horsepower Brass Adapter	V40-460
10	Brass Pump Shaft w/ O-Ring Groove	V30-449
Not Shown	Bolt & Drain Plug Kit	V40-482

NOTE

When pump is mounted permanently within 5 feet of the inside walls of a swimming pool, you must use a No. 8 AWG or larger conductor to connect to bonding conductor lug.

WARNING

To reduce the risk of injury, do not permit children to use the product unless they are closely supervised.

CAUTION

This pump is for use with permanently installed pools and may also be used with hot tubs and spas if so marked. Do not use with storable pools. A permanently installed pool is constructed in or on the ground or in a building such that it cannot be readily disassembled for storage. A storage pool is constructed so that it may be readily disassembled for storage and reassembled to its original integrity and has a maximum dimension of 18 feet (5.49m) and a maximum wall weight of 42 inches (1.07m).

CAUTION

For hot tubs and spas pumps, do not install within an outer enclosure or beneath the skirt of a hot tub or spa unless so marked.

SECTION 1: GENERAL INFORMATION:

A) WIRING:

WARNING

RISK OF ELECTRICAL SHOCK OR ELECTROCUTION

This pool pump must be installed by a licensed or certified electrician or a qualified pool serviceman in accordance with the National Electrical Code and all applicable local codes and ordinances. Improper installation will create an electrical hazard which could result in death or serious injury to pool users, installers, or others due to electrical shock, and may also cause damage to property. Always disconnect power to pool pump at the circuit breaker before servicing the pump. Failure to do so could result in death or serious injury to serviceman, pool users, or other due to electrical shock.

1. Make sure all electrical breakers and switches are turned off before wiring motor.
2. Make sure that the wiring voltage matches the motor voltage (230 V or 115V). If they do not match, the motor will burn up.
3. Choose a wire size from Chart 1. When in doubt, use a heavier gauge (larger diameter) wire. A heavier gauge will allow the motor to run cooler and more efficiently.
4. Make sure all electrical connections are clear and tight.
5. Cut wires to the appropriate length so they don't overlap or touch when connected to the terminal board.
6. Permanently ground the motor by using the green ground terminal located on the inside of the motor canopy or access plate, see Figure 1. Use the correct wire size and type specified by the National Electrical Code. Make sure the ground wire is connected to an electrical service ground.

115 Volts

230 Volts

HP	50ft	100ft	150ft	50ft	100ft	150ft
1/3	14	14	12	14	14	14
1/2	14	12	10	14	14	14
3/4	12	12	10	14	14	14
1	12	10	8	14	14	14
1.5	10	10	8	14	14	12
2	10	8	8	14	12	12
3	-	-	-	12	12	10

CHART 1

7. Bond the motor to the pool structure in accordance with the National Electrical Code. Use a solid No. 8 AWG or larger copper conductor. Run a wire from the external bonding to the pool bonding structure, see Figure 1.
8. Connect the pump permanently to a circuit. Make sure no other lights or appliances are on the same circuit.

NOTE

It is important that the O-Ring be kept clean and well-lubricated.
We recommend a silicone-based lubricant for best results.

B) THE PUMP STRAINER BASKET

This unit, sometimes referred to as the “Hair and Lint Pot”, is the unit in front of the volute. Inside the chamber is the basket, which must be kept clean of leaves and debris at all times. Regardless of the length of time between filter cleaning, it is most important to visually inspect the hair and lint pot basket at least once a week. A dirty basket will reduce the efficiency of the filter and heater and also put an abnormal stress on the pump motor, which would result in a costly repair bill.

SECTION II: MAINTENANCE

WARNING

DO NOT open the strainer pot if pump fails to prime or if pump has been operating without water in the strainer pot. Pumps operated in these circumstances may experience a build up of vapor pressure and may contain scalding hot water. Opening the pump may cause personal injury. In order to avoid the possibility of personal injury, make sure that the suction and discharge valves are open and the strainer pot temperature is cool to touch, then open with extreme caution.

CAUTION

To prevent damage to the pump and the filter for proper operation of the system, clean pump strainer and skimmer basket regularly.

A) PUMP STRAINER BASKET CLEANING PROCEDURES

1. Turn off motor.
2. Relieve pressure in the system.
3. Turn the “T” handles in a counter-clockwise direction --- two turns.
4. Turn the pump lid away from the “T” handles and remove lid.
5. Put the debris from the basket into the trash and rinse out the basket.
If the basket is cracked, it must be replaced.
6. Replace the basket and fill the pump pot and volute up to the inlet port with water.
7. Clean the pump lid, lid o-ring and sealing surface of the pump pot.
8. Re-install the pump lid by placing the lid on top of the pot and turn lid under the “T” bolts in a clockwise direction. Hand tighten “T” bolts evenly.
9. Turn the power “ON” at the house circuit breaker. Reset the pool time clock to the correct time. Start the pump.

WARNING

This filter operates under high pressure. When any part of the circulating system is serviced, air can enter the system and become pressurized. Pressurized air can cause the lid to blow off which can result in severe injury, death or property damage. To avoid this potential hazard, follow these instructions.

10. Open the manual air relief valve on top of the filter when pump starts to prime.
11. Stand clear of the filter.
12. Bleed Air from the filter until a steady stream of water comes out.

B) WINTERIZING

1. If the air temperature drops below 35° F, the water in the pump can freeze and cause damage.
Freeze damage is not warrantable.
2. To prevent freeze damage, follow the procedures listed below:
 - A) Shut off electrical power for pump at the house circuit breaker.
 - B) Drain the water out of the pump case by removing the two 1/4" drain plugs from volute and trap. Store the plugs in the pump basket.
 - C) Cover the motor to protect it from severe rain, snow, and ice.
 - D) Do not wrap the motor in plastic. It will cause condensation and rust on the inside of the motor.

C) CARE OF ELECTRIC MOTOR

1. PROTECT FROM HEAT

- A) Shade the motor from the sun.
- B) Any enclosure must be well-ventilated to prevent overheating.
- C) Provide ample cross ventilation.

2. PROTECT AGAINST DIRT

- A) Protect from any foreign matter or splashing water.
- B) Do not store (or spill) pool chemicals near the motor.
- C) Avoid sweeping or stirring up dust near the motor while it is operating.
- D) If a motor has been damaged by dirt, it voids the motor warranty.

3. PROTECT AGAINST MOISTURE

- A) Protect from splashing pool water.
- B) Protect from the weather.
- C) Protect from lawn sprinklers.
- D) If a motor has become wet, let dry before operating. Do not allow the pump to operate if it has been flooded.
- E) If a motor has been damaged by water, warranty is voided.

SECTION III: SERVICE

WARNING

This pool pump must be installed by a licensed or certified electrician or a qualified pool serviceman in accordance with the National Electrical Code and all applicable local codes and ordinances. Improper installation will create an electrical hazard which could result in death or serious injury to pool users, installers, or others due to electrical shock, and may also cause damage to property. Always disconnect power to the pool pump at the circuit breaker before servicing the pump. Failure to do so could result in death or serious injury to serviceman, pool users, or others due to electrical shock. Read all servicing instructions before working on the pump.

WARNING

DO NOT open the strainer pot if pump fails to prime or if pump has been operating without water in the strainer pot. Pumps operated in these circumstances may experience a buildup of vapor pressure and may contain scalding hot water. Opening the pump may cause personal injury. In order to avoid the possibility of personal injury, make sure the suction and discharge valves are open and the strainer pot temperature is cool to touch, then open with extreme caution.

A) PUMP DISASSEMBLY

1. All moving parts are located in the rear sub-assembly of this pump.

Tools required are as follows:

- A) 1/8" Allen head wrench.
- B) 1/2" open end wrench.
- C) 9/16" open end wrench.
- D) Impeller wrench.
- E) 7/8" open end wrench.

2. To remove and repair the motor sub-assembly, perform the following procedures:

- A) Turn off the pump circuit breaker at the main panel.
- B) Remove the four bolts (with 9/16" wrench) that holds the bracket to the volute.
- C) Gently pull the two pump halves apart, removing the rear sub-assembly.
- D) Use 7/8" wrench to hold the pump shaft.
- E) Place impeller wrench in the vein of the impeller, turn impeller wrench counter-clockwise to unscrew impeller from shaft.
- F) Remove four bolts from bracket to motor. Remove bracket from motor.
- G) Remove three 1/4" set screws with 1/8" Allen wrench. Remove pump shaft from motor.
- H) Remove old ceramic seal from impeller.
- I) Place the bracket on a flat surface and tap out the spring/ceramic seat.

B) PUMP REASSEMBLY/SEAL REPLACEMENT (See Section V, Technical Data, Figure 4)

1. When installing the replacement shaft seal, carbon side up, use silicone sealant on the metal portion before pressing into the bracket.
2. Before installing the ceramic section of the seal into the impeller, be sure the impeller is clean. Use silicone sealant on side of rubber boot to seal the outer part of the seal to the impeller. Press the seal into the impeller with the ceramic side up with your thumbs and wipe off the ceramic and carbon faces with a clean cloth.
3. Reinstall pump shaft. Do not tighten set screws.
4. Remount bracket to the motor with four bolts using 9/16" wrench.
5. Reinstall the impeller with a 7/8" wrench. Hold the pump shaft screw the impeller onto the shaft, turning it clockwise. Place 7/8" wrench on pump shaft flats. Tighten with impeller wrench or large screwdriver in impeller vanes.
6. Install bracket onto the volute. Install gasket and bracket to volute with four bolts.

7. Push impeller assembly up against the volute. Remove pump lid and basket. Take finger and place inside the trap housing pushing impeller back .015 of an inch (so it doesn't touch volute). Tighten three set screws on the pump shaft with 1/8" Allen wrench.
8. Spin shaft with fingers, shaft must be spin-free. If rubbing occurs, repeat step 7 and 8.
9. Fill trap and volute with water up to the inlet ports.
10. Reinstall basket and pump lid. Hand-tighten "T" bolts evenly.
11. Turn the power "ON" at the house circuit breaker. Reset the pool time clock to the correct time.
12. Start the pump. When the pump starts to prime, bleed air from the filter until steady stream of water starts to come out. Inspect pump seal and gasket for leaks.

C) FIELD SERVICE WARRANTY PROCEDURES

Should your pump equipment fail, contact Martin Pump at 800-753-0509. Before you call, be prepared to complete and/or answer the following required information:

Customer Name: _____

Complete Address: _____

City and State: _____

Telephone Number: _____ Zip Code: _____

Model Number: _____ Serial Number: _____

Installation Date: _____

Complete description of the problem:

Martin Pump will contact an authorized service center in that area. The service center will contact the customer and set up an appointment to evaluate the problem. Should your firm contact a service center directly, the service center will also require the above information. The center will then contact Martin Pump for a service authorization number before the service is initiated.

To expedite your request for service and ensure that the service center has the correct parts to make the necessary repairs, be certain that all the information provided is complete and accurate. Incomplete or incorrect information regarding the service agreement can delay the repair or process time.

If our service center determines the problem is not covered under warranty, it will deal directly with the homeowner. The homeowner will be responsible for the parts and labor at that time.

Martin Pump is open Monday through Friday, 8:00am - 4:30pm (PST), and may be reached by calling 1-800-753-0509 or 1-661-252-0115, and by fax at 1-661-252-0117.

WARRANTY

Martin Pump warrants its products to be free from defects in material and workmanship for a period of one (1) year from the date of purchase, except as noted below. Product which becomes defective within the warranty period will be repaired or replaced (at Martin Pump's option) except for damage related to whatever chemistry, negligence, abuse, misuse, misapplication, unauthorized modifications, improper installation, normal wear, or chemical attack. This warranty extends only the original purchaser. Pump seals, pump motors, O-rings, and gaskets are covered only during the first year. The removal and/or tampering with any labels on Martin Pump products will void the warranty.

Martin Pump will be responsible for the labor incurred by its' authorized service agents in removing, inspecting, and reinstalling the warranty products only during the first year of the warranty period. Martin Pump will not be responsible for labor costs of anyone who is not an authorized service agent or for routine maintenance, adjustments, or alterations to electrical calibrations.

Any products which are claimed to be defective and which are not repaired or replaced by an authorized service agent must be shipped freight prepaid to Martin Pump and the repaired or replaced product will be returned to the sender freight collect. When sent to Martin Pump, the product must be accompanied by the sales receipt or other proof of purchase date, as well as the sender's name, mailing address, daytime phone number, and any other information relating to the sender's claim.

Unless state law expressly provides otherwise, Martin Pump will only be responsible for the repair or replacement of its' products that are found to be defective as provided above, and will not bear the cost of any incidental or consequential damages. The warranty gives you specific legal rights and you may also have rights, which vary from state to state.

Martin Pump is not responsible for warranty on pump mechanical seal or motor when purchasing a pump liquid end only (brass pump less motor).