



Diaphragm Pump Manual

23 Series

SEAFLO 23 Series diaphragm pump is design for wider applications of liquid transfer, pressurization and circulation. 23 Series is compact design but flow rate is up to 1.5GPM (5.6LPM), and pressure is up to 120PSI (8.2Bar). 23 Series supports flexible customization. Firstly its control type can choose from demand, by pass, no switch, manual switch and any combination of these types. Secondly, with compatible fixtures, 23 series can easy connect to any industrial port. Thirdly, 23 series can be customized to use for water, chemicals and food grade.

FEATURES

- Compact design but up to 1.5GPM (5.6LPM)
- Run dry capable for normal workloads
- Industry standard mounting pattern
- 2 chambers diaphragm pump
- Multiple control types & fittings
- Intermittent duty
- Quiet Operation
- Self-priming

APPLICATIONS

- Cleaning machines, humidifier, water purification, medical apparatus
- Food beverage filling, Coca cola, coffee, juice dispenser machine
- Sprayer fixtures (vehicle-mounted sprayers, electric sprayers)
- Liquid transfer, pressurization and circulation.
- Solar water system
- Yacht/RV/caravan
- Any other pressurization system

INSTALLATION

Materials

- 1 x diaphragm pump with 3/8" barb fittings or 1/4" quick attach fitting
- 2 x (at least) pieces of flexible, reinforced hose piping, with collapsing strength of twice the inlet collapsing pressure (hose must be minimum 3/8" ID) or 2 pcs of 1/4" PE hose.
- 4 x stainless steel hose clamps and screws (Pump with 1/4" quick attach fitting don't need it)
- 4 x screws to fasten the pump to the mounting surface
- 1 x fuse
- 1 x screwdriver
- 1 x strong cutting implement for tubing
- (If desired) Teflon tape or sealant

Setup

1. The pump can be mounted in any position. If mounted vertically, the pump head should be in lower position to avoid leakage into the motor casing in the event of a malfunction.
2. Secure the feet, but do not compress them. Over tightening the securing screws may reduce their ability to dissipate noise and vibration.

3. Intake hose must be minimum 3/8" (10 mm) ID reinforced hose. Main distribution line from pump outlet should also be 3/8" (10 mm) ID with branch and individual supply lines to outlets no smaller than 3/8" (10 mm).
4. Plumb the system using high pressure (2x pump rating), braided, flexible tubing to minimize vibration/noise.
5. The inlet pressure do NOT excess 60PSI. In general, try to avoid any inlet pressure completely.
6. Avoid any kinks or fittings which could cause excessive restrictions.
7. If install a strainer, it should be attached to the inlet side.
8. The fittings must be secured to avoid leakage.
9. Use clamps at both ends of hose to prevent air leaks into the water line. (Pump with 1/4" quick attach fitting don't need it)
10. If a check valve is installed in the plumbing, it must have a cracking pressure of no more than 2 psi.
11. If applying a sealer or plumbing tape, be careful to not over tighten, as they may be sucked into pump.
12. This pump should be wired on its own dedicated circuit. Connect the positive lead (red) to the positive terminal of your battery and the negative wire (black) to the negative terminal of your battery.
13. In an easily accessible location, install a switch to control electricity to the pump. Turn the pump off when not used for extended periods or when the tank is empty.
14. The electrical circuit should be protected with an over-current protection device (fuse) in the positive lead. This pump requires an 8 amp fuse.
15. The pump circuit should not include any other electrical loads.
16. As the water supply pump is non-essential, reference the wire chart under the electrical information. Be sure to have the correct wire sizing for the length of wire you are using.
17. After installation, check the voltage at the pump motor. Voltage should be checked when pump is operating. Full voltage must be available at the pump motor at all times.

Notes

1. Flexible potable water hose or PEX tubing is recommended instead of rigid piping at pump. If you choose to use rigid piping, provide a short length of hose between pipe and the pump to avoid noise and vibration.
2. We do not recommend the use of metal fittings. When possible, use the provided plastic fittings.
3. Do not adjust the bypass personally without the help of technician.
4. Lack of sanitizing and maintenance is one of the main reasons of under performance of the pump. Please do maintenance and winterize the pump at appropriate times, especially before and after a period of storage.

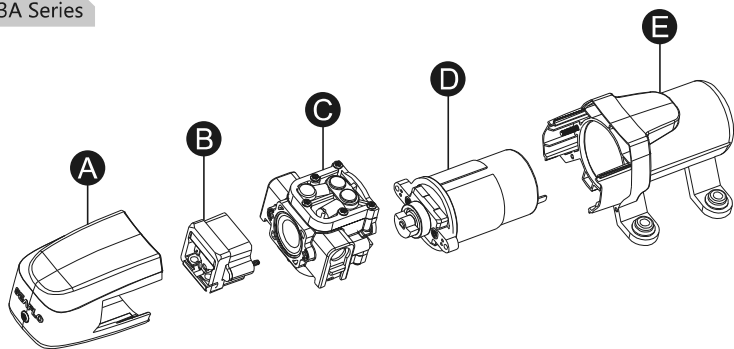
ELECTRICAL INFORMATION

Ft. (m)	AWG (mm2)
0-50 (0-15)	16AWG
50-65 (15-19)	14AWG
65-100 (19-30)	12AWG
100-130 (30-39)	10AWG

REPAIR KITS

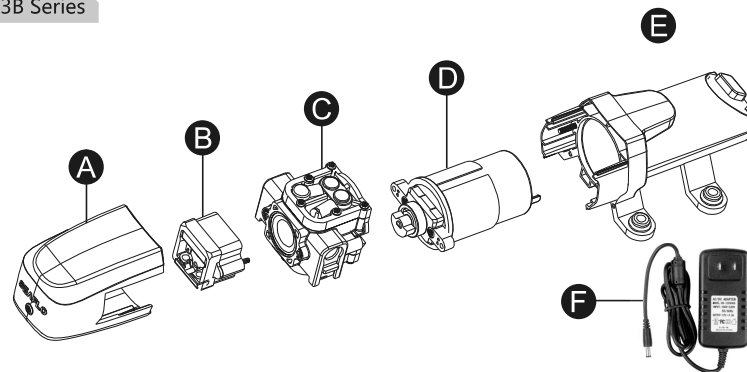
Model Number	Protect Housing	Manual Switch	Demand or Bypass Switch
23A Series	YES	NO	One of them or both
23B Series	YES	YES	One of them or both
23C Series	NO	NO	One of them or both
23D Series	NO	NO	Bypass or NO switch

23A Series



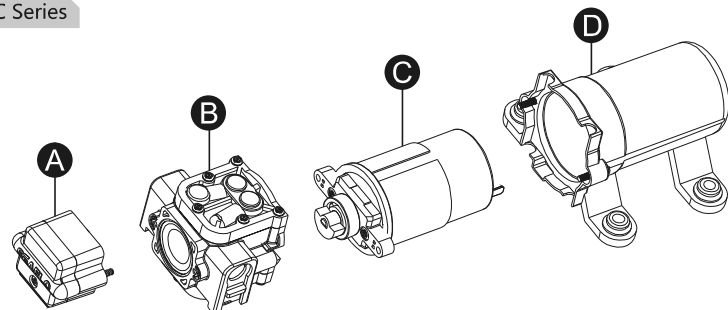
Key	Description	Quantity
A	Cover	1
B	Pressure Switch	1
C	Pump Head Assembly	1
D	Motor Assembly	1
E	Motor Cover Assembly	1

23B Series



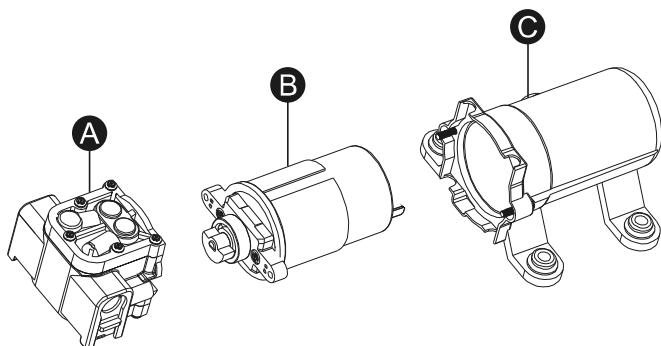
Key	Description	Quantity
A	Cover	1
B	Pressure Switch	1
C	Pump Head Assembly	1
D	Motor Assembly	1
E	Motor Cover Assembly	1
F	AC Adapter	1

23C Series



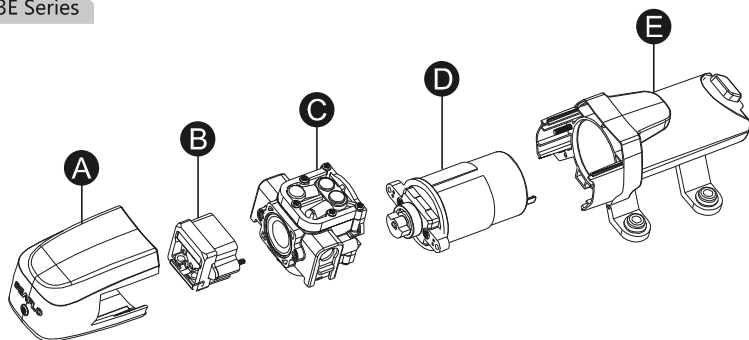
Key	Description	Quantity
A	Pressure Switch	1
B	Pump Head Assembly	1
C	Motor Assembly	1
D	Motor Cover Assembly	1

23D Series



Key	Description	Quantity
A	Pump Head Assembly	1
B	Motor Assembly	1
C	Motor Cover Assembly	1

23E Series



Key	Description	Quantity
A	Cover	1
B	Pressure Switch	1
C	Pump Head Assembly	1
D	Motor Assembly	1
E	Motor Cover Assembly	1

TROUBLE SHOOTING

PULSATING FLOW— PUMP CYCLES ON AND OFF

- Check lines for kinks.
- Plumbing lines or fittings may be too small.
- Clean faucets and filters.
- Check fitting tightness for air leaks.

FAILURE TO PRIME BUT MOTOR OPERATES - NO PUMP DISCHARGE

- Restricted intake or discharge line.
- Air leak in intake line.
- Punctured pump diaphragm.
- Initial amp supply is not enough to sufficiently start the motor.
- Debris clogged in the valves.
- Crack in pump housing.

MOTOR FAILS TO TURN ON

- Loose or improper wiring.
- Pump circuit has no power.
- Blown fuse.
- Failed pressure switch.
- Defective motor

PUMP FAILS TO TURN OFF AFTER ALL FIXTURES ARE CLOSED

- Punctured diaphragm.
- Discharge line leak.
- Defective pressure switch.
- Insufficient voltage.
- Clogged valves in pump head.

LOW FLOW AND PRESSURE

- Air leak at pump intake.
- Accumulation of debris inside pump or plumbing.
- Worn pump bearing (possibly accompanied by loud noise).
- Punctured diaphragm.
- Defective motor.

NOISY

- Check if the mounting feet are compressed too tightly.
- Is the mounting surface flexible? If so, it may be adding noise.
- Check for loose head/screws.
- If the pump is plumbed with rigid pipe, then it may transmit noise more easily.