

## Waste Water Diaphragm Pumps: 22 L, 32 L, Compact 22 L and Vacuum 28 L 12V / 24V

• Bilge / Shower Drain/Waste Water / Grey Water / Black Water, Transfer or Pump-out pump

• Can be run dry with no damage to the pump

• Easily adjusted flow direction by loosening the clamping ring and rotating the pump head.

• Self-priming dry up to suction lift of 2.5 m (8 feet)

**Make sure the suction lines are airtight**

• Meets ISO 8846, 10133, 9097 and CE Conforms with EN 55014 for suppression of Electro-magnetic interference

• Meets ISO 15083 Small Craft Bilge Pump Standard

• 22L Waste Diaphragm Pump: Flow 19 l/min (5 GPM) at 0.1 bar (1.45 psi) pressure.

• 32L Waste Diaphragm Pumps: Flow 30 l/min (8GPM) at 0.1 bar (1.45 psi) pressure

• 32L equipped with double pairs of non-return valves made of Nitrile for max. performance at black waste water pump out.

• 28L Vacuum equipped with double pairs of non-return valves made of Silicone for max. performance at bilge water pump out.

|                    |             |                    |           |   |
|--------------------|-------------|--------------------|-----------|---|
| part no. 03-01-001 | 22L         | 22 L/min (5.8 GPM) | 12V 4.5 A | 19 mm (¾") and 25 mm (1") straight      |
| part no. 03-01-002 | 22L         | 22 L/min (5.8 GPM) | 24V 2.5 A | 19 mm (¾") and 25 mm (1") straight      |
| part no. 03-01-003 | 32L         | 32 L/min (8.5 GPM) | 12V 6 A   | 38 mm (1½") straight and 90° rotational |
| part no. 03-01-004 | 32L         | 32 L/min (8.5 GPM) | 24V 3 A   | 38 mm (1½") straight and 90° rotational |
| part no. 03-01-015 | Compact 22L | 22 L/min (5.8 GPM) | 12V 4.5 A | 19 mm (¾") and 25 mm (1") straight      |
| part no. 03-01-016 | Compact 22L | 22 L/min (5.8 GPM) | 24V 2.5 A | 19 mm (¾") and 25 mm (1") straight      |
| part no. 03-01-029 | Vacuum 28 L | 28 L/min (7.4 GPM) | 12V 6 A   | 38 mm (1½") straight and 90° rotational |
| part no. 03-01-030 | Vacuum 28 L | 28 L/min (7.4 GPM) | 24V 3 A   | 38 mm (1½") straight and 90° rotational |

### Installation:

The pump must be mounted in a dry, ventilated location – even if the motor is waterproof – and must not be submerged. *Selection of a cool ventilated location will generally extend pump motor life.* Mount the pump horizontally with space for maintenance. Place the pump above the level of the holding tank. If this is not possible, fit a service valve on the holding tank side of the pump. This prevents waste draining into the pump during maintenance. Direction of flow can be easily altered by loosening the screws which hold the clamping rings. Rotate the pump head to the required angle, check direction of flow and retighten (figure 3). Fix the pump in position by attaching the screws and washers provided through the rubber feet.

### NOTE:

- (A) The pump is designed to work at a maximum head combination of 3 m (10feet). This includes height of pump above holding tank outlet + distances from the pump to the highest point in the discharge line + distance of seacock discharge below waterline.\*
- (B) As holding tanks on most boats are installed below the waterline it is essential that proper siphon breaks (vented loops) are installed to prevent siphoning water into the toilet by leakage past the suction or discharge valves of the pump.

### Plumbing connection:

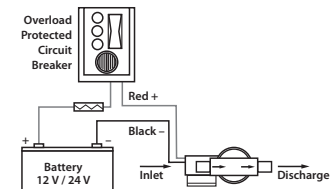
1. It is recommended to use appropriately sized smoothbore, thick walled, non-collapsing hose which is designed to minimize the permeation odors.
2. To reduce the likelihood of permeation of odors keep the hose runs as short and as straight as possible. Avoid dips in the hose which will remain wet. Sweep connections instead of elbows should be used whenever possible.

3. Connect the inlet and outlet hose to the pump ensuring the flow direction is correct, loosen screws on the collar holding the pump head and rotate pump head for desired flow direction (see fig. 2 & 3). Retighten collar screws. Two stainless steel hose clamps should be used at each connection.
4. Install sea cocks, deck fittings, etc. as per manufacturers recommendations.
5. Do not connect pump directly in line with a deck pump-out fitting.

### Electrical connections:

Connect black wire to negative (-) terminal of battery. The red wire should run to a properly sized overload protected switch or circuit breaker, with a wire from switch or breaker to positive (+) terminal of battery. Electrical circuit must be independent of all other accessories. Use proper wire size as determined by wire table below. Wiring must comply with applicable electrical standards.

| Wire size<br>(based on<br>10% voltage<br>drop) | Max wire length (total distance<br>from the battery to the pump<br>and back to the battery) |              |
|--|---|--------------|
|  | 12V   | 24V          |
| 1.5 mm <sup>2</sup> (16 ga)                    | 20 m (66')  | 60 m (197')  |
| 2.5 mm <sup>2</sup> (14 ga)                    | 30 m (98')  | 120 m (394') |



### Maintenance:

Check wires and connections to be sure corrosion is not adding additional resistance to the motor circuit and causing a low voltage condition at the motor. Low voltage can inhibit motor from starting and cause fuse to blow. Full voltage should be available to prevent motor damage.

### General maintenance:

1. Periodically check all connection clamps for slack and corrosion and replace as necessary.
2. Use toilet cleaners made specifically for marine toilets. Do not use bleach or drain cleaner. Rinse and flush the holding tank after each pump out. This will dilute any residual waste and help prevent blockage and reduce odors.
3. Properly winterize the toilet system. As a rule it is best to leave the system completely drained and dry.

**Pump:** Isolate power to pump and close service valve – if fitted – before dismantling pump. Place a drip tray below pump head and inlet/outlet hoses during maintenance.

### Valve replacement/inspection:

1. Disconnect the inlet and outlet hoses and unscrew outer and inner valve housings to give access to the valves.
2. The valves should be flexible and the opening slit should be closed to its relaxed state. Trapped debris in the valves or valve housings should be removed.
3. When re-fitting, ensure the valves are assembled in the correct orientation (see fig. 2) to diaphragm

\* Respect National and Local regulations regarding the dumping of waste water into lakes, rivers and oceans

## Replacement/inspections:

1. Remove the pump head clamping rings by unscrewing the two clamping screws which will release the pump head and allow easy access to the diaphragm.
2. To replace/inspect diaphragm it is not necessary to disassemble valves. This will minimize spillage.
3. Remove diaphragm by undoing 8 mm locking nut holding the diaphragm plate against the diaphragm and crank arm.
4. When reassembling, ensure that the outer edge of the diaphragm is located securely in the grooves between the body and the gear housing. Failure to do so will cause priming/vacuum generation problems.
5. It is important that the diaphragm plate is assembled with the rounded edge towards the diaphragm.
6. Refit the locking nut and clamping ring and tighten screws.

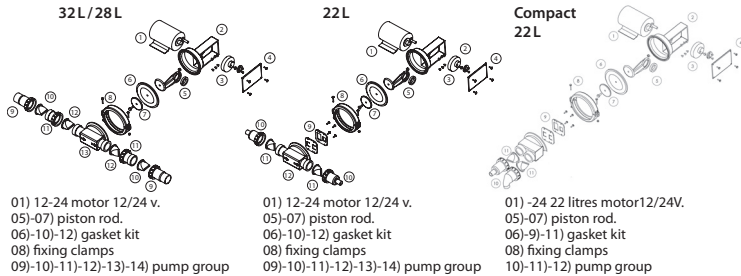
## Trouble shooting

Pump operates but no waste pumped? Check the following:

- A. Are all connections airtight and secure?
- B. Are seacocks/valves open?
- C. Are clamping ring screws tight and diaphragm fitted correctly?
- D. Do diaphragm/valves need replacement?

Pump will not operate? Check the following:

- A. Electrical connections/fuse. If fuse blows check for closed valves and blocked pipes.
- B. Correct polarity connections to pump?



## Spare Parts



**03-91-031 Valve Kit for Diaphragm Pump Vacuum.** Spare rubber valves in silicone material for diaphragm pump Vacuum PN03-01-029 and 03-01-030. For bilge water applications, giving optimized tightness and preventing back flow; 4pcs in a kit. Can also be used for 03-01-003 and 03-01-004.



**03-91-032 Valve Kit for Diaphragm Pump.** Spare rubber valves in NBR material for diaphragm pump PN03-01-003 and 03-01-004. For black water applications, giving optimized capacity and flow performance; 2pcs in a kit. Can also be used in PN03-01-001/002 and 03-01-015/016.

Fig. 1

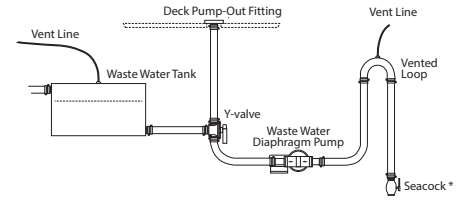


Fig. 2

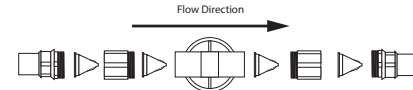
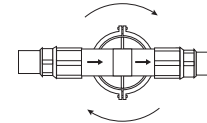


Fig. 3



\* Respect National and Local regulations regarding the dumping of waste water into lakes, rivers and oceans



Keep all wire connections above the highest water level. Wires must be joined with butt connectors and a marine grade sealant to prevent wire corrosion.



Disconnect power from the system before working on the unit to avoid personal injury, damage to the surrounding environment and/or damage to the unit.



Always install proper fuse size to prevent damage to product should a short occur. Failure to install proper fuse could increase risk of pump malfunction potentially resulting in personal injury and/or fire hazard.



Do not pump gasoline, solvents, thinners, highly concentrated or organic acids. Use with hazardous, caustic, or corrosive material could result in damage to the pump and the surrounding environment, possible exposure to hazardous substances and injury.

## WARRANTY

Two year limited warranty



## Waste handling & material recycling

At the product's end of life, please dispose of the product according to applicable law. Where applicable, please disassemble the product and recycle the parts according to material.

# Albin Group

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