

## To the Fitter

Ensure all relevant personnel read the points listed below and that a copy is passed on to the end user.

## To the User

Read the points listed below before installation and use of equipment.

## Application

The Whale Gulper Toilet pump is designed to pump macerated and non-macerated toilet waste without blocking. It offers a reliable means of emptying waste holding tanks overboard and may be used in vacuum toilet systems.

## Assembly

Ensure pump inlet and outlet valves are assembled in correct orientation (Fig.1). Check that valves are properly seated and inner and outer valve housings are tightened fully.

## Installation

1. Mount 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.
2. Mount the pump horizontally.
3. Direction of flow can easily be altered by loosening the screws which hold the clamping rings. Rotate the pump head to the required angle, check direction of flow and re-tighten (Fig.2).

### **Note:**

- a) The pump is designed to work at a maximum lift/head combination of 3m (10ft). This includes height of pump above holding tank outlet and distances from pump to the highest point in the discharge line and distance of seacock discharge below waterline.
- b) As the 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.

4. A typical installation is shown in (Fig.3).
5. Position the pump in a dry, ventilated area that allows maintenance access. Fix the pump in position by attaching the screws and washers provided through the rubber feet.

## Plumbing

1. It is recommended to use 38mm (1½") smooth bore thick walled non-collapsing hose which is designed to minimise the permeation of waste system odours.
2. To reduce the likelihood of permeation of odours, 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 (Fig.1). Two stainless steel hose clamps should be used at each connection.
4. Where appropriate the Whale Diverter Valve (DV5606), which has been specifically designed to handle toilet waste should be used.
5. Install seacocks, deck fittings, etc. as per manufacturers recommendations.
6. Do not connect pump directly in line with a deck pumpout fitting.

## Electrical Connections

### **Note:**

**An in-line fuse assembly is already fitted. This is to prevent serious damage in the event of system blockages. Ensure valves, seacocks etc. are fully open before operating the pump.**

1. Use recommended replacement fuse and correct wire size (see specifications).
2. Connections for a typical holding tank pump out system are shown in Fig.4.
3. Connect the power cable to the spade terminals on the pump using crimped on connectors. Note: the pump is polarity sensitive and will not operate if connected wrongly. Protect the cable where it runs through holes or over sharp edges.
4. Wiring must comply with applicable electrical standards.

## Operation

1. The pump is rated for up to 40 minutes continuous running.  
Warning:- Pump motor casing can become hot. Avoid prolonged contact.
2. Always fit correct fuse.
3. Unnecessary running will reduce the life of the valves and diaphragm. Turn off the pump when leaving the boat. If some power has to be maintained install a dedicated pump switch (Fig.5).
4. Ensure valves and seacocks are open before operating pump.
5. Do not flush paper towels or feminine hygiene

products. Keep paper usage to a minimum.

6. Ensure system is properly vented. To prevent odours, run vent lines from siphon breaks to vent fittings above maximum heeled water line.

7. Keep pump manufacturer's recommended spares kit on board (also toilet system spares).

## Maintenance

### Pump

1. Isolate power to pump and close service valve, if fitted before dismantling pump.

Place a drip tray below pump head and inlet and 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 silt should be closed to its relaxed state. Trapped debris in the valves or valve housings should be removed.

3. When refitting ensure the valves are assembled in the correct orientation (Fig.1).

### Diaphragm 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 minimise spillage.

3. Remove diaphragm by undoing 8mm locking nut holding diaphragm plate against diaphragm and crank arm.

4. When re-assembling 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 creation 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.

## General

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 odours.

3. Properly winterize the toilet system. As a rule it is best to leave the system completely drained and dry.

## Fault Finding

Check:

a) all connections are airtight and secure.

b) seacocks/valves are open.

c) clamping ring screws are tight and diaphragm fitted correctly.

d) diaphragm/valves do not need replacement.

Pump will not operate?

Check:

a) electrical connections / fuse. If fuse blows check for closed valves and blocked pipes.

b) correct polarity connections to pump.

## Service Kits

Spares Kit Part No: AK1557.

Any questions contact our service desk -

Email: [support@whalepumps.com](mailto:support@whalepumps.com).

## Warranty

This Whale product is covered by 1 years warranty.

Please see the enclosed document for details of our statement of limited warranty.

## Declaration of Conformity

We hereby declare that the Gulper 220 conforms with the provisions of the following EC Directives: Electromagnetic Compatibility Directive 89/336/EEC, amended by 92/31/EEC and 93/68/EEC on the approximation of the laws of the member states.

CE mark affixed 26/06/06

Basis on which conformity is declared. The Gulper 220 complies with the protection requirements of the EMC Directive.

Standards applied

EN55014-12000 and EN55014-2:1997.



Richard Bovill  
Engineering Director

Fig.1 Pump Head

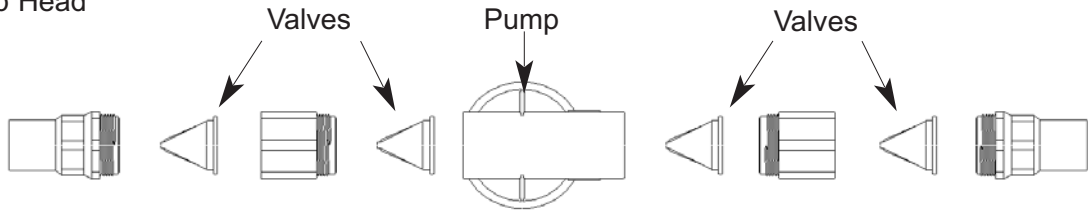


Fig.2 Altering Flow Direction

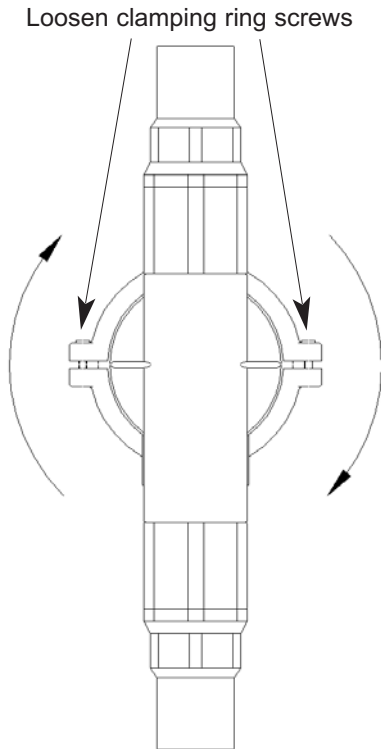


Fig.4 Electrical Connections

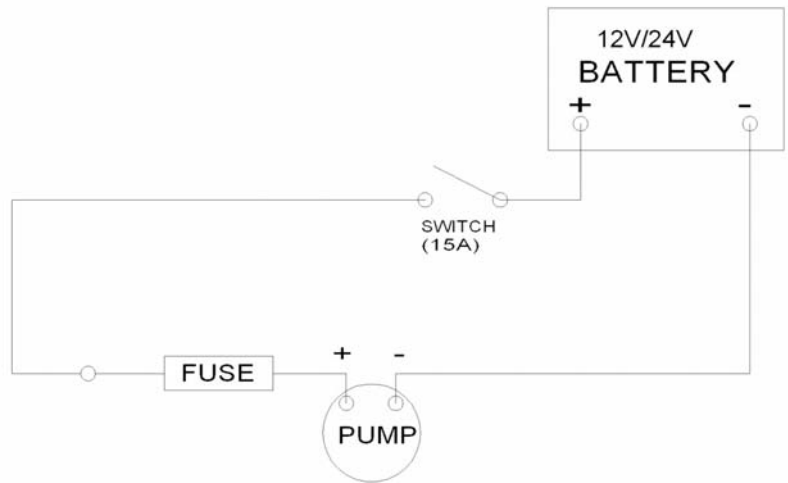
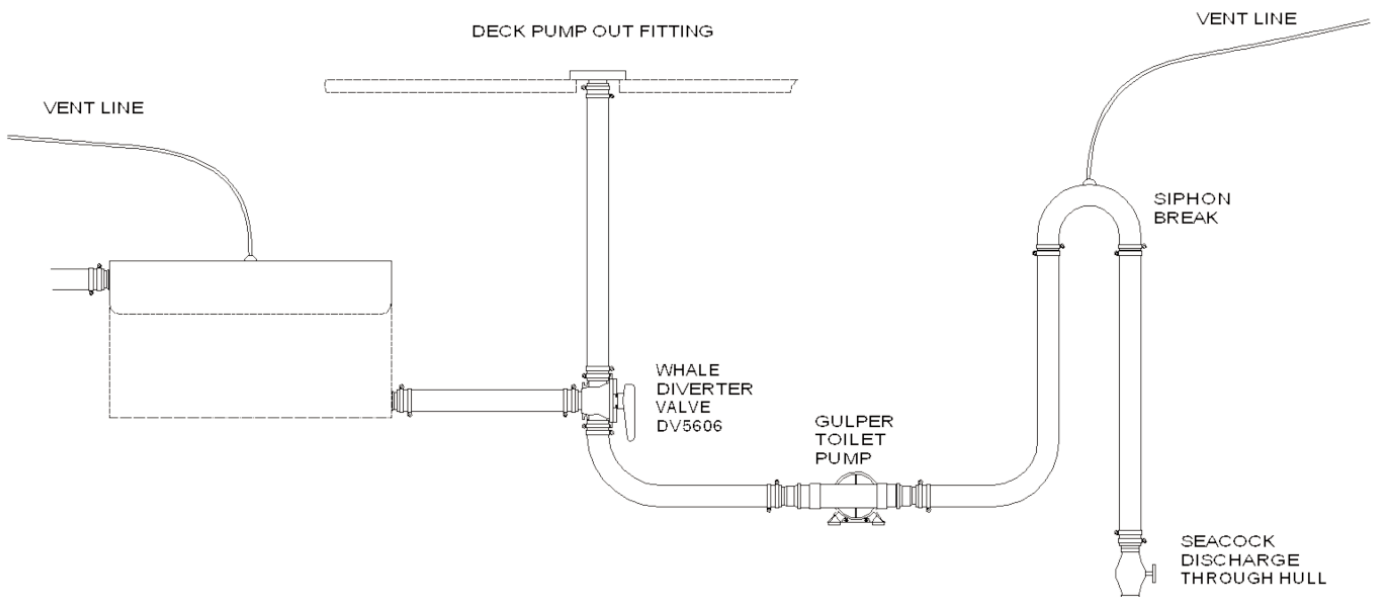


Fig.4 Typical Pumpout Installation



Gulper Toilet Pump Specifications		
Product Code	BP2552B	BP2554B
Voltage	12V d.c.	24V d.c.DC
Recommended Fuse Size	10 amp automotive	5 amp automotive
Weight	2.12kg (4 <sup>3</sup> / <sub>4</sub> lbs)	
Open Flow Rate Per Minute	18ltrs (4 <sup>3</sup> / <sub>4</sub> US gals)	
Hose Conenctions	38mm (1 <sup>1</sup> / <sub>2</sub> "	
Minimum Wire Size	1.5mm <sup>2</sup> (16AWG)	
Materials	Glass filled nylon, bronze, EPDM, Nitrile, Hypalon, Acetal, stainless steel, brass, aluminium.	
Maximum Head	3m (9.8ft)	
Maximum Lift	3m (9.8ft)	
Maximum Head & Lift	3m (9.8ft)	
Dry Running Current	4amps	2amps
Vacuum Capacity	30mm (12") of mercury	
Noise	72db	
Ignition	Protected to ISO8846	

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