

SAFETY INSTRUCTIONS & PREVENTATIVE MAINTENANCE



HEALTH PRECAUTIONS

Magnetic drive pumps utilise magnets. any individuals with pacemakers, implanted defibrillators, electronic medical devices, metallic heart valves, or sickle cell anaemia should consult a health care professional before working with these pumps.

The pumps may be heavy, please refer to manual handling guidance before lifting and/or moving a pump

UNPACKING

Unpack the pump and/or its parts and check for signs of shipping damage. If damage is detected, take pictures and contact March May for further assistance. Check that all ordered parts are included.

Do not remove labels on the motor and/or on the exterior of the pump. Information provided on these labels, help identify the pump and its construction. Removal of such labels also voids the warranty of the pump.

For stainless steel pumps, the impeller, thrust washer, and shaft are packed separately.

INSTALLATION/OPERATION PRECAUTIONS

Installation of Complete Pump

Pumps should be securely fastened. Install the motor per local and national electrical codes. Always ground the pump motor. Only use the specified voltage listed on the nameplate, do not operate the pump with a different voltage then specified on the motor nameplate. Do not exceed the service factor of the motor. Do not cover the motor. Check all electrical connections with the wiring diagram found on the motor.

Most pumps supplied by March May are not self-priming. For pumps that are not self-priming, liquid must flow naturally to the pump. Do not operate the pump until the liquid is inside of the pump. **Never run the pump dry.**

If the pump is to be used in a hazardous environment, contact March May for **ATEX** solutions.

Do not submerge the pump, unless pump is suitable for submersion.

For further instruction, see our General Installation Guide

Operation

The pump has moving parts when in operation. Follow local safety standards for locking out the motor during assembly and disassembly.

The pump may be used for the transferring of various chemicals. Always wear the appropriate personal protective equipment (including protective eye care, gloves, clothing, etc.) and follow safety procedures during the operation of the pump.

Do not operate with a closed suction or discharge valve. Do not start with a closed suction valve.

The wet end and/or motor may become hot during operation. Ensure all parts are cool to the touch prior to handling the pump.

Always check with March May before pumping any liquids with solids.



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Maintenance

March May has not established a general preventative maintenance schedule for its pumps, due to each application presenting its own specific conditions. The pump should be checked upon installation, first use, and monitored once a week. If any abnormality is detected concerning vibration, noise, electric current, flow or head rate, turn off the pump immediately and inspect the pumps individual parts.

The pump should be periodically inspected for wear on the impeller bushing. The frequency of the inspection should be determined by the customers own maintenance schedule.

Follow motor lubricating oil instructions as found on the motor label. (Not every motor requires lubrication)

During routine maintenance, ensure all bolts are still securely fastened

Ensure pumps are kept clean by removing all excessive dust and particles. Do not clean the exterior of the pump with any flammable solvents.

ASSEMBLY / DISASSEMBLY

Magnets

Magnets on specific models may be strong enough to pull the wet end and motor end quickly together during assembly or disassembly.

WARNING: Do not put fingers between the two mating surfaces (between impeller magnet and/or impeller vanes and the pump housing) during assembly or disassembly. Caution must be taken when assembling or disassembling any pump.

Assembly

Contact March May for proper assembly procedure concerning the drive magnet and motor bracket.

Exercise caution when removing impellers on all models of pumps, but especially on larger pumps due to the strong magnetic forces between the impeller magnet and the drive magnet. When handling the impeller, hold onto the out diameter of the impeller vanes with both hands and gently engage the impeller into the magnetic field. Hold the impeller firmly to resist the magnetic attraction. Keep magnets away and free of any metal chips and particles.

Do not over-tighten fasteners. Contact March May for appropriate torque levels.

Care must be taken that the O Ring sits in its respective groove appropriately. Ensure the O Ring does not get pinched or nicked as this may compromise the integrity of the pump chamber resulting in a leak.

Before connecting the power, rotate the motor fan to ensure there is not binding or rubbing of the drive magnet against the rear housing.

Disassembly

Disconnect the power from the pump, and drain the pump (see "draining the pump" section)

After draining, separate front cover from the pump housing. Ensure that no liquid is present on any parts.

Separate the parts, exercise caution in removing the impellers on all pumps (as previously outlined in this document)



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If any part appears damaged or defective, take pictures and contact March May.

Individual parts are listed on the appropriate datasheet, for confirmation please contact March May.

Shut Down Procedure

1. Disconnect the power/turn off motor
2. Carefully close the discharge valve
3. Close the suction valve
 - *Caution must be exercised with automated valves

Draining the Pump

4. Wear appropriate safety gear
5. Disconnect the power
6. Close suction and discharge valves
7. Remove pipe/hose/tube from the inlet and discharge of the pump
8. Unscrew/Untighten the fasteners from the wet end assembly
9. Direct outlet downward and into appropriate container

NOTE: Observe local laws and regulations with regards to the handling and disposing of hazardous liquids. DO not get motors wet. Not all motors are dust proof or submersible proof.

TROUBLESHOOTING

General Notes

- Liquids containing ferrous metal fines should not be pumped.
- If magnets decouple, stop the pump. Running the pump with the magnets decoupled will weaken the magnets.

Lack of Flow/Head

- Check for air leaks in suction piping
- Make sure that the pump is primed correctly and not running dry
- System head higher than anticipated
- Make sure all valves are open
- Viscosity or specific gravity is too high
- Suction lift too high or insufficient NPSH
- System may be clogged
- Motor rotation incorrect
- Air in liquid

Loss of Prime

- Leaks in piping or air in liquid
- Foot valve problems
- Foreign objects in liquid
- Suction lift too high or insufficient NPSHa



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Excessive Power Consumption

- Head lower than rating
- Too much flow
- Specific gravity too high
- Viscosity too high

Vibration/Noise

- Motor not properly secured
- Piping not properly secured
- Pump cavitation from improper suction
- Drive magnet rubbing against pump housing

OTHER

For further information on temperature ratings, pressure ratings, horsepower, and NPSHr, utilise the pump's specific pump manuals and performance curve. Contact March May for further assistance when required.

Always follow the recommendations of March May staff for chemical compatibility.



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