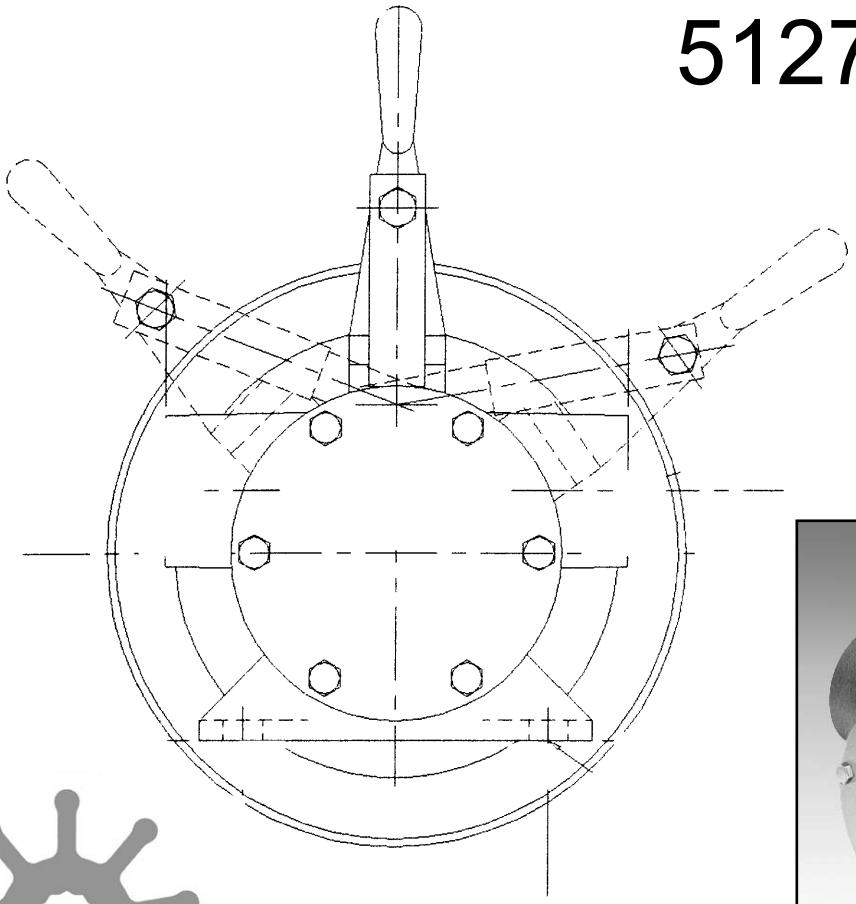
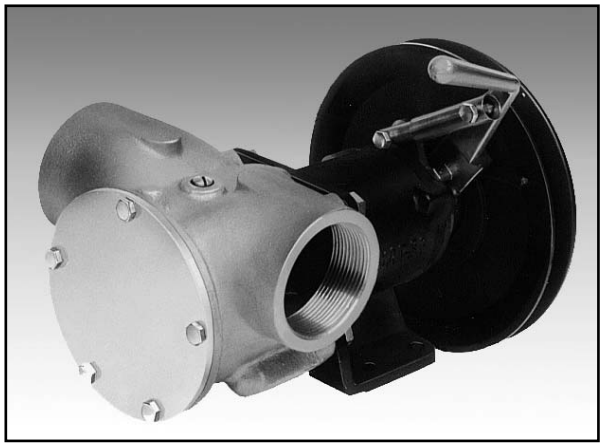
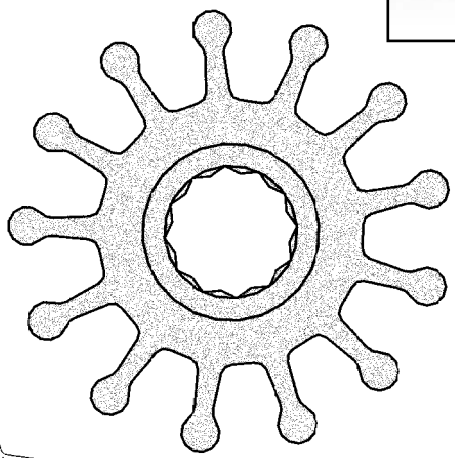
JABSCO®

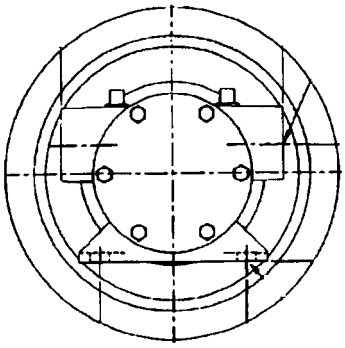
Bronze Clutch Pumps Technical Manual

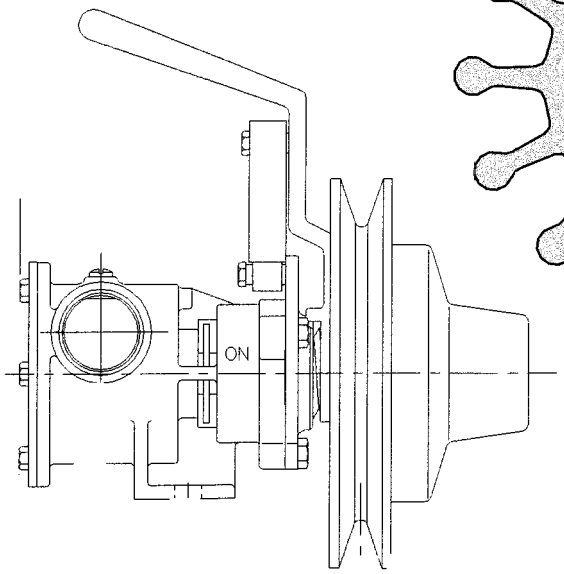
51270-Series











51270-Series

Service Instructions

Inspect all parts for wear or damage and replace as necessary

Disassembly - Clutch Unit

1. Remove snap-on cover
2. Unscrew spring retaining bolt at end of shaft. Remove retainer, spring, and clutch cone. NB Bolt is assembled with 'Loctite' (nutlock)
3. Remove one retaining bolt from guide tube assembly.
4. Unscrew bolts holding engaging mechanism housing to body. Remove complete clutch assembly including pulley and engaging mechanism from pump.
5. Remove key and shim from shaft.
6. To break down handle, pulley and engaging mechanism, remove small retaining ring at bearing, support pulley and press engaging mechanism sleeves through bearing in handle and remove handle from engaging mechanism.
7. If pulley bearing needs replacing, remove retaining ring from pulley and push out bearing.

Disassembly - Pump

1. Remove end cover screws, end cover and gasket.
2. Remove impeller using suitable tool.
3. Loosen cam screw and remove cam.
4. Remove wearplate.
5. Remove bolts holding pump body to bearing housing and remove pump body.
6. Remove mechanical seal from pump body.
7. Press shaft and bearing assembly out of bearing housing.
8. Push out shaft from rear bearing supporting the inner race and remove retaining rings from shaft.
9. Press shaft out of front bearing supporting the bearing inner race.
10. Remove inner bearing seal.

Assembly - Pump

1. Press new inner bearing seal into housing with lip facing away from bearing bore.
2. Press shaft into front bearing supporting inner bearing race. Fit bearing retaining rings on shaft and push second bearing onto shaft.
3. Grease seal area of shaft. Push bearing and shaft into body by pressing on outer race of bearing.
4. Position slinger on shaft and replace pump body and secure with four bolts.
5. Take new seal (cup rubber and seal seat), lightly grease the outside edge of cup rubber and press into the cavity in the pump bore with the ceramic facing the impeller bore.
6. Slide mechanical seal sub assembly over shaft until it engages against ceramic face of stationary seal. NB Ensure seal faces are free from dirt and grease.
7. Fit wearplate.
8. Coat cam screw thread and back of cam with non setting jointing compound and fit into body.
9. Lightly grease impeller bore and push in impeller.
10. Fit gasket, end cover, and end cover screws.

Assembly Clutch

1. Screw engaging mechanism/sleeve into housing approximately 1 turn. Fit handle over sleeve and set 0.25mm (0.001") clearance between housing and handle, when in the off position, by screwing sleeve in or out as required. Lock handle on sleeve with grub screws. NB lubricate thread with anti-scuffing paste.
2. Re-fit bearing and retaining ring into pulley. While supporting clutch mechanism/sleeve press pulley bearing assembly onto sleeve hard up against the handle.
3. Fit pulley/handle/engaging mechanism assembly to pump with three bolts.
4. Fit guide tube mechanism to handle and to engaging mechanism housing.
5. Fit shim and key to shaft.
6. Fit clutch cone, spring and spring retainer and secure with both. Tighten bolt until retainer is clamped against the shaft. NB Lubricate between shaft and clutch cone with anti-scuffing paste. Assemble screws with 'Loctite' (nutlock)
7. Re-fit snap on cover.

Clutch Adjustment

When new, the clutch will begin to engage approx. half-way between the 'OFF' and 'ON' position. As wear takes place on engaging position will move towards the 'ON' position. When there is little movement left between the engaging point and the 'ON' position the clutch can be adjusted as follows:

1. When handle is in the 'OFF' position remove the snap on cover.
2. Unscrew spring retaining bolt at end of shaft. Remove retainer spring, clutch cone and key. NB Bolt is assembled with 'Loctite' (nutlock).
3. Remove shim and re-assemble key, clutch cone, spring retainer, screw and cover.NB Removal of shim will restore engagement point to the original position. Once the shim is removed no further adjustment is possible and clutch cone and pulley should be replaced.

Installation, Operation and Safety Advice

INSTALLATION AND OPERATION

Pump may be mounted in any position. When installed vertically motor pump units should be installed so the motor is above the pump head.

The rotation of the pump shaft determines the location of the pump inlet and outlet. Before installation rotate pump shaft and impeller in the direction of the required operation to reduce initial start up torque.

All pump pipe work must be adequately supported to avoid stress on pump and pump components and consequential leakage.

Belt driven pumps. If excessive belt tension exists this will cause rapid belt wear and result in premature bearing failure. It should be possible to deflect a correctly tensioned belt between pulleys about 16mm (0.6") per metre (3'4") of span by applying finger pressure. Ideally belt to pulley contact arc should be about 120º but never less than 90º.

Crank shaft mounted pumps require a torque arm to be designed and fitted so that only pure torque reaction will result. Other unnecessary loads must be avoided.

Operation Limits. Pump should not be operated above the published performance without prior approval.

AC motor pump units. ALL ELECTRICAL WIRING should be connected and installed by a competent electrician. A qualified person must ensure that the installation conforms to the Electrical and Mechanical requirements of local and national regulations. All equipment operating within a flame proof area must comply with the relevant standards applying to that area. Before using the pump, ensure that your electrical supply corresponds with the voltage range marked on the machine.

Pumps are dry self priming i.e. do not require to be filled with liquid to start up.

Dry running. Jabsco pump units depend on liquid to lubricate impeller surfaces. A dry running period of 30 seconds maximum on initial prime is generally a safe length of time. If pump fails to prime in this time then stop and check for leaks in pipe work and impeller damage.

Capacitors in motor circuits retain a charge after the supply has been isolated. This must be discharged before servicing starts to avoid the risk of electrical shock.

Labels should be attached to all surfaces over 60°C (140°F) indicating 'HOT AREAS'.

Impeller Temperature operating ranges;
Neoprene impellers 4° - 80° C (40° - 176° F)
Nitrile impellers 10° - 90° C (50° - 194° F)

Warning! - THIS APPLIANCE MUST BE EARTHED UNLESS OTHERWISE SPECIFIED motors are not flame proof and can spark, explosion and death can occur.

SAFETY ADVICE

Ensure that all moving parts are adequately guarded to prevent accidental contact.

Leakage from mechanical, lip, and pack gland seals could cause a hazard. If liquid being pumped is toxic or corrosive then preventative measures should be taken to reduce contact.

Do not use for pumping petrol, toluene, benzene, or light fraction petroleum products such as solvents, thinners or other liquids with flash points below 37°C (98.6°F).

Freezing temperatures - do not permit liquid to freeze in pump body. Drain pump by loosening end cover.

It is a requirement of COSHH (1988) regulations that the manufacturers instructions in the handling of hazardous substances must be observed at all times.

To confirm with the Health and Safety and COSHH regulations, Jabsco require that any pump or part of a pump that is returned to this company for repair or examination, or for any reason whatsoever, will be suitably packed and accompanied by a letter stating what the pump/part has been pumping.

If the liquid or product is hazardous or in any way dangerous, this must be stated and the chemical make up of it must be stated in detail. UNLESS THIS PROCEDURE IS OBSERVED the unit will not be accepted on our company premises. The only exception to this rule is if the pump is returned is new and unused.

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Let's Solve Water

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