

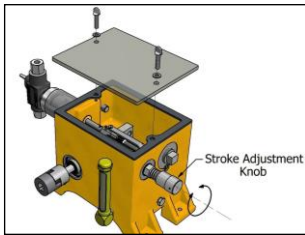


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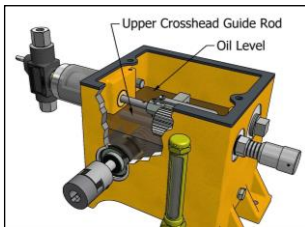
Electric Driven Chemical Injection Pump

INSTALLATION

Step 1: Mount pump in desired location. Bolt holes are provided for permanent mounting (see dimensional drawing).



Step 2: Remove cover by removing the wing screws. Select desired stroke length by turning stroke adjustment knob, clockwise rotation decreases the effective stroke length, counter-clockwise rotation increases the effective stroke length. A full stroke length (1") will pump the maximum volume shown in the specifications, for approximately 50% volume use a 1/2" stroke, etc. Each complete turn of the knob results in a 10% change in stroke setting. Each groove on the spindle is equal to a 25% change in stroke length.



Step 3: Fill the gear box with approximately 1.2 litres of a good grade lubricant. The oil level should be maintained level with the top of the crosshead guide rods. For maximum life use an AGMA 7 compounded oil (or ISO 460 oil). Sample listings of oils are as follows:

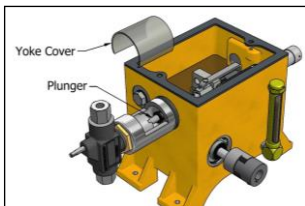
Bruin – BPG460-1200

Chevron – Cylinder Oil W 460, Meropa ISO 460, Texaco – Vanguard 460

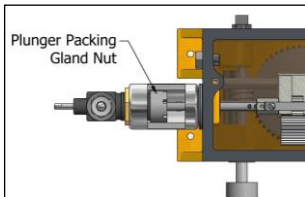
Mobil – Mobil 600W Super Cylinder Oil, Mobil SHC 634

Petro-Canada – Synduro SHB 460, Enduratex Synthetic EP 460, Enduratex WG 460

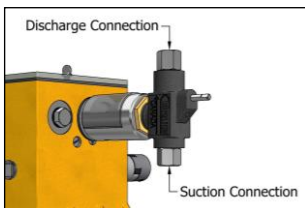
Shell – Omala SI W 460 Summit – Syngear SH-7460



Step 4: Reinstall cover with wing screws ensuring gasket is in place. Remove yoke cover and lubricate plunger with a suitable packing lubricant (Teflon or Graphite based packing lubricant is recommended, but an equivalent suitable lubricant like a Molybdenum disulfide based lubricant can be substituted).



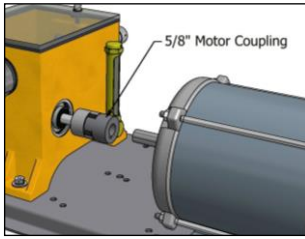
Step 5: Check plunger packing gland nut to make sure packing is snug but do not over tighten. For optimum operation and packing life, the packing should not be too tight. Over tightening the packing could result in the pump stalling and/or premature packing wear. *Note: A gland wrench is supplied with the pump.* Reinstall yoke cover.



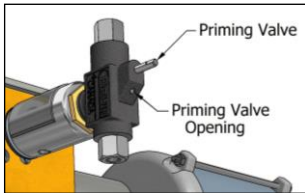
Step 6: Connect suction and discharge lines to the pump head. *Note: Arrow on pump head indicates direction of fluid flow.* The suction line should contain a sufficient strainer to prevent foreign matter from entering the pump, which could result in plunger or check valve damage. A line check should be installed on the discharge line at the point of injection. *Part Number BA-0676 is a brass 1/4" line check valve sufficient for use up to 3000 psig.*

Part Number BA-0675 is a stainless steel 1/4" line check valve sufficient for use up to 6000 psig.

Part Number BB-0283 is a stainless steel 1/2" line check valve sufficient for use up to 6000 psig.



Step 7: If pump was ordered without a motor, mount motor. The pump input shaft should not exceed 1800 RPM and will operate the pump in either direction of rotation (CW or CCW). The gear box shaft height is 3.5 inches from the base to shaft centerline. This will accommodate a NEMA frame 56 motor, other frames may require shimming for proper shaft alignment. **Note: Shaft misalignment will cause the bearings in the motor and pump, as well as the coupling to wear out.** Align shafts with supplied shaft coupling and bolt motor securely in place. A minimum of 1/16" spacing should be allowed between coupling ends for expansion. Check for free rotation by turning motor and pump over by grasping the coupling and rotating. **Note: Installation of an overload protector in the motor circuit is recommended.**



Step 8: Open the priming valve and start the power source, the pump head will begin to prime. Once the pump discharges fluid without bubbles from the priming valve opening, close the priming valve for operation.

Step 9: Check the plunger packing for leaks and tighten the gland nut as required until leakage stops. Packing should only be adjusted after pressure has been removed from the pump head, **never adjust packing against pressure.** During the "break in period", a slight leak is beneficial to allow the packing to 'set in'. Packing should be checked periodically after start up. **Note: Keep the gland wrench handy for future packing adjustments.**

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TROUBLESHOOTING

Pump operates but fails to pump fluid or reach required discharge pressure:

- Ensure priming valve is completely shut and not leaking.
- Ensure plunger pin is in place and not broken.
- Check for gear rotation.
- Check stroke adjustment and ensure plunger movement.
- Check for leaks around bottom bushing, top bushing and packing.
- Inspect and clean bottom seat, top seat, balls and valve spring.
- Inspect for damage and replace components if necessary.