

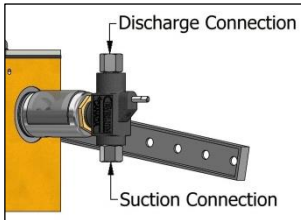


BR1200

Beam Driven Chemical Injection Pump

INSTALLATION

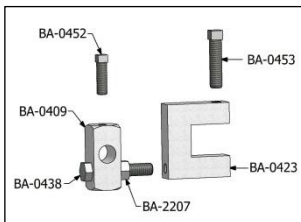
Step 1: Mount pump in desired location. Bolt holes are provided for permanent mounting (see dimensional drawing).



Step 2: 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.*

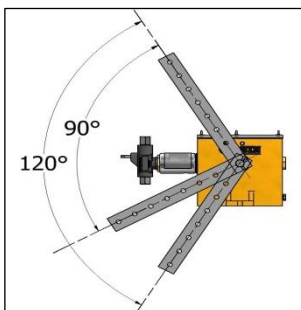
Part Number BA-0675 is a stainless steel 1/4" line check valve sufficient for use up to 6000 psig.

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



Beam Clamp Assembly (BA-0700)

Step 3: Ensuring the power source is turned off, connect the lever arm to the oscillating power source. The lever arm is normally connected to the power source (ie. walking beam pump) with rod or pipe (3/8" OD) or with wire line (BA-0702) utilizing beam clamp assembly (BA-0700), connecting knuckle (BA-0409) and/or cable clamps (BA-0703). Tighten set screws to secure position of rod, pipe or wire. *Note: If wire line is used, ensure that the pump lever returns to the lower position under its own weight, additional weight may have to be added onto the pump lever to facilitate lever return.*

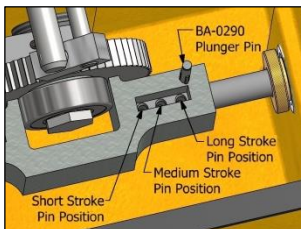


Step 4: Adjust the pump for the desired volume by considering the following adjustments:

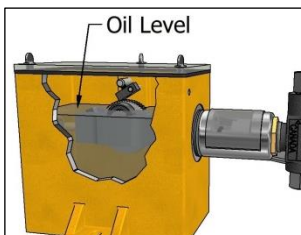
a) Number of strokes of the lever arm: This is dependent on the oscillating power source stroke rate.

b) Number of ratchet teeth engaged per stroke: This is dependent upon the travel of the lever arm. The maximum recommended teeth engagement is 10 teeth (60° rotation) in either direction from horizontal position of the lever arm, thus providing a maximum total teeth engagement per stroke of 20 teeth possible. *Note: If the lever arm cannot travel below the level of the bottom of the base, the maximum teeth engagement below horizontal is limited to 5 (30°) providing 15 teeth maximum engagement total.*

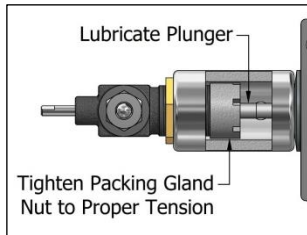
c) Stroke length: This is dependent upon the positioning of the plunger pin in the accompanying holes in the plunger for the desired stroke length (short, medium, or long stroke).



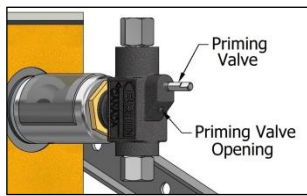
Step 5: Fill the box assembly with enough SAE 30 oil (ISO 100 and AGMA 3 are equivalents) to cover the bearing. *Note: Use SAE 10W oil (ISO 32 and AGMA 0 are equivalents) for low ambient temperatures.* *Note: Oil should be periodically changed at frequent intervals as required according to service conditions consistent with good maintenance practice and should be changed*



immediately if water or contaminants are present. Reinstall cover with wing screws ensuring gasket is in place.



Step 6: Remove yoke cover and lubricate plunger with a suitable packing lubricant grease (Teflon or Graphite based packing lubricant is recommended, but an equivalent suitable lubricant like a Molybdenum disulfide based lubricant can be substituted.) *Note: Plunger should be regularly greased. The ¾" and 1" head assemblies are equipped with a grease jack assembly that should be occasionally thread in one complete revolution to provide plunger/packing lubrication. 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 7: 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 8: 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 ratchet rotation 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.