

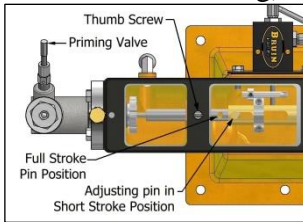


BR5000

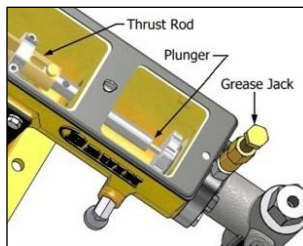
Pneumatically Operated Chemical Injection Pump

INSTALLATION

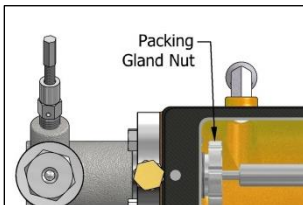
Step 1: Mount pump in desired location. Bolt holes are provided for permanent mounting (see dimensional drawing).



Step 2: Ensure the priming valve in the pump head is in the opened position. Remove the cover by removing the wing screw. Select the desired stroke length (full 1 1/4" stroke or short 1/2" stroke) by adjusting the pin's position.



Step 3: Lubricate the thrust rod with a molybdenum disulfide grease and the 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: For a pilot valve assembly, fill main cavity to bottom of the thrust rod with SAE 30 non-detergent 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. Do NOT fill cavity on micro switch assemblies.* Plunger sizes 1/4" through 1" have a grease jack assembly that allows injection of grease into the plunger packing area. Lubrication sticks (BA-3179) are available for most fluids. For 1 1/4" plungers, a grease jack assembly is unavailable and the plunger should be lubricated by plugging the elbow and filling the body chamber next to the pump head up to the plunger with SAE 30 non-detergent oil (ISO 100 and AGMA 3 are equivalents). *Note: Use SAE 10W oil (ISO 32 and AGMA 0 are equivalents) for low ambient temperatures.*



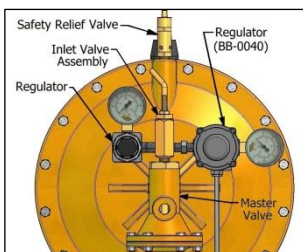
Step 4: Check plunger packing gland nut to make sure packing is snug but do not over tighten. For optimum operation and packing life, the packing should not be too tight. Over tightening the packing could result in the pump stalling and/or premature packing wear. With the cover gasket in place, reinstall the cover with wing screw.

Step 5: Connect the 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.

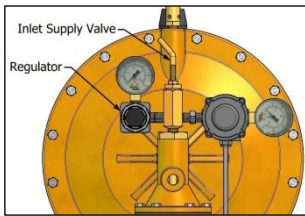
Part Number BA-0675 is a stainless steel 1/4" line check valve sufficient for use up to 6000 psig.

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

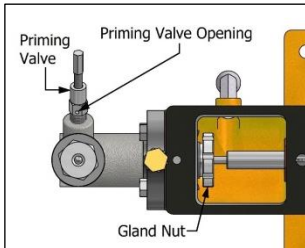


Step 6: Ensure the inlet valve assembly is in the closed position, and connect the gas supply line. **A regulator is required if the supply pressure is higher than 50 psig. CAUTION: The regulator (BB-0040) supplied as a standard component is factory set at 12 psig to prevent over-pressuring of the master valve assembly and DOES NOT REGULATE THE MAIN GAS SUPPLY**

PRESSURE. Note: BR5000HP and BR5000H models are equipped with a regulator (BB-0040A) that can be used up to 5500 psig. To prevent moisture or debris from entering the pump, a filter should be installed on the supply line. Note: The pump is equipped with a safety valve set at 50 psig to protect the pump diaphragm from damage.

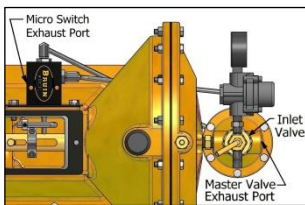


Step 7: With the supply gas pressure set to less than 50 psig, slowly open the inlet supply valve and the pump will begin to operate. **Note:** As supply gas is supplied to diaphragm, the pump will begin to stroke, ensure cover is on pump and keep fingers and other obstacles out of pump internals.



Step 8: 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.



Step 10: Once the pump reaches full pressure, alter the stroke rate by adjusting the inlet valve and the supply pressure (50 psig maximum) until desired flow rate is achieved. **Note:** For correct operation the exhaust port from the master valve and the micro switch must have zero back pressure and the air vent must not be blocked.

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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 adjusting pin is in place and not broken.
- Check for leaks around bottom bushing, top bushing and packing.
- Inspect and clean bottom seat, top seat, balls and check valve spring.
- Inspect for damage and replace components if necessary.

Pump fails to operate:

- Ensure gas inlet valve and air vent are open and not blocked.
- Ensure regulator is set to provide 12 psig maximum from the gas supply.
- Check master valve diaphragm, upper valve seat, valve spring, valve disc and lower valve seat for damage.
- Check safety valve for leakage.
- Check micro switch for correct operation and correct adjustment. (For optional pilot valve assembly, check for correct operation and leakage.)
- Inspect diaphragm for ruptures.
- Inspect return spring for damage.
- Inspect thrust rod for excessive scarring and galling.