

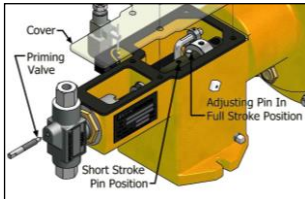


BR5100

Pneumatically Operated Chemical Injection Pump

INSTALLATION

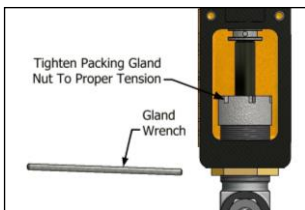
Step 1: Mount pump in desired location. Bolt holes are provided for permanent mounting (see dimensional drawing).



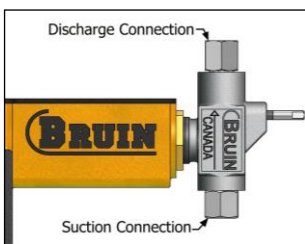
Step 2: Ensure the priming valve in the pump head is in the opened position. Remove cover by removing the 4 wing screws. Select the desired stroke length (full 1" stroke or short 1/3" stroke) by adjusting the pin's position.



Step 3: Lubricate the thrust rod with a molybdenum disulfide grease and the plunger with a Teflon or graphite based packing lubricant. *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.*



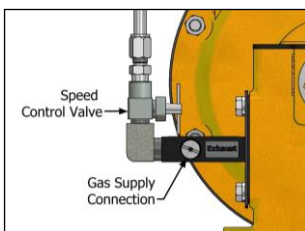
Step 4: Check plunger packing gland nut with gland wrench to make sure packing is snug but do not over tighten. For optimum operation and packing life, the packing should not be too tight. Over tightening the packing could result in the pump stalling and/or premature packing wear. Once you are satisfied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



Step 5: 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. The discharge line should be 5/16" tubing minimum. 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.*

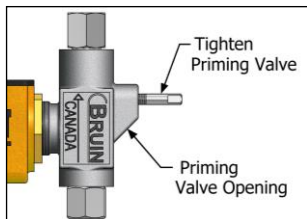
Part Number BA-0675 is a stainless steel 1/4" line check valve sufficient for use up to 6000 psig.

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



Step 6: Ensure the speed control valve is in the closed position, and connect the gas supply line. **A regulator is required if the supply gas pressure exceeds 35 psig.** *Note: BR5100HP and BR5100H models are equipped with a regulator (BA-1718) that can be used up to 220 psig. If required, a regulator (BB-0040A) for supply gas up to 5500 psig is available.* To prevent moisture or debris from entering the pump, a filter should be installed on the supply line.

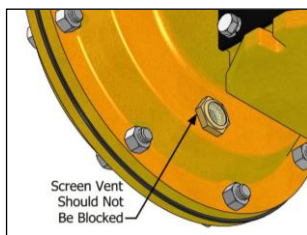
Step 7: With the supply gas pressure set to less than 35 psig, slowly open the inlet supply valve and the pump will begin to operate. *Note: As supply gas is supplied to diaphragm, the pump will begin to stroke, ensure cover is on pump and keep fingers and other obstacles out of pump internals.*



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. *Note: Keep the gland wrench handy for future packing adjustments.*



Step 10: Once the pump reaches full pressure, alter the stroke rate by adjusting the speed control valve and supply pressure (35 psig maximum) until desired flow rate is achieved. *Note: For correct operation the exhaust port must have zero back pressure and the screen on the air vent must not be blocked.*

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TROUBLESHOOTING

Pump operates but fails to pump fluid or reach 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, check balls and check valve spring.
- Inspect for damage and replace components if necessary.

Pump fails to operate:

- Ensure gas inlet valve exhaust and air vent are open and not blocked.
- 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.