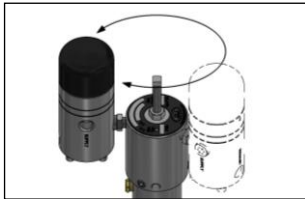




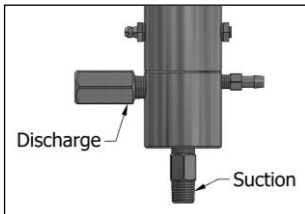
BR6000

Pneumatically Driven Chemical Injection Pump

INSTALLATION



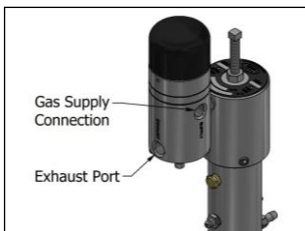
Step 1: Ensure plunger and piston are lubricated with general purpose grease. Loosen set screws on motor cylinder and position controller so it is accessible during operation; tighten the set screws to hold it in place. Ensure fluid cylinder is threaded tight into pump body and grease has been injected into grease nipple. *Note: More grease should be added periodically. E.g. Jet-Lube Silicone Compound DM Translucent Grease NLGI Grade 2.*



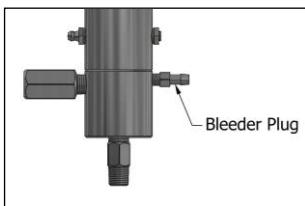
Step 2: Install the pump with enough space to allow for complete access to all components for maintenance. Connect suction and discharge lines with the pump mounted vertically and the suction check valve pointing straight down. *Note: Suction check valve has no spring and will not operate efficiently if the pump is not oriented vertically. Note: Arrows on pump suction and discharge check valves indicates direction of fluid flow.* Ensure the suction line contains 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" piping minimum. *Note: Pump can be installed in line without additional support brackets. 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.



Step 3: Remove protective cap from controller body. Ensure the stroke rate knob is set to 0, and connect the gas supply line. *Note: To avoid damaging the controller valve stem, it is recommended to use a ball valve in the gas supply line to turn the pump ON and OFF instead of the stroke rate knob. A regulator is required if the supply gas pressure exceeds 100 psig. Note: Regulator should be located near or at the pump controller.* To prevent moisture or debris from entering the pump, a filter should be installed on the supply line. *Note: The controllers exhaust port is threaded to allow for venting exhaust. Note: For correct operation the exhaust port must have zero back pressure and the screen on the air vent must not be blocked.*



Step 4: Open the bleeder plug in the pump head. With the supply gas pressure set to less than 100 psig, slowly rotate the stroke rate knob and the pump will begin to operate. *Note: Stroke rate knob scale is an approximate percentage of maximum stroke rate, with maximum stroke rate when the dial is positioned at 100.* Once the pump discharges fluid without bubbles from the bleeder plug opening, close the bleeder plug for operation. *Note: The escaping fluid can be gathered by attaching a plastic or rubber tube to the bleeder plug before opening it.*

Step 5: Once the pump reaches full pressure, alter the flow rate by adjusting the stroke rate knob, stroke length (maximum 1" stroke), and supply pressure (100 psig maximum) until desired flow rate is achieved. *Note: Bottoming out stroke adjustor will impede the pump from stroking.*

STROKE RATE KNOB CALIBRATION

Step 1: Remove protective cap.

Step 2: Unscrew the knob setscrew and remove the stroke rate knob and upper spring.

Step 3: Turn on the pneumatic supply.

Step 4: Rotate the valve stem by hand until the desired maximum stroke rate is achieved. To check stroke rate, count the amount of strokes in a minute. Adjust the rate by turning the stem clockwise to decrease the rate and counter clockwise to increase it. *Note: Rotate stem slowly to avoid damaging the stem or completely unthreading stem from controller body.*

Step 5: Place upper spring over the valve stem. Replace stroke rate knob so that the point of the knob is indicating 100 on the scale. Tighten the setscrew.

Step 6: Set rate to desired operating point, and re-install protective cap.

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TROUBLESHOOTING

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

- Ensure bleeder plug is completely shut and not leaking.
- Ensure stroke adjustor is not bottomed out and impeding stroke.
- Check for leaks around suction and discharge check valves, grease nipple, grease relief valve or vent.
- Inspect and clean suction check valve, discharge check valve, check balls and check valve spring.
- Inspect plunger for excessive scarring and galling.
- Inspect for damage and replace components if necessary.
- Discharge pressure exceeding pump capabilities with supply pressure.

Pump fails to operate:

- Ensure gas inlet valve exhaust and air vents are open and not blocked.
- Check pump controller for correct operation and correct adjustment.
- Inspect diaphragm for ruptures.
- Ensure valve stem is not closed.
- Ensure controller's pilot plug is orientated vertically and sealing.
- Ensure pump and controller are properly connected.
- Ensure the controller pieces are correctly aligned.
- Ensure screws are tightly threaded into controller and no leakage around diaphragms.
- Inspect springs for damage.
- Inspect valve stem for excessive scarring and galling.