

TRANSFER PUMP INSTRUCTIONS

SAFETY TIPS

- ❖ Never inhale nitrous oxide. When inhaled in adequate quantities, nitrous oxide can cause respiratory problems or in extreme cases it can cause death due to suffocation caused by lack of oxygen.
- ❖ Never allow escaping nitrous oxide to contact skin. Nitrous oxide discharges at -130 degrees F. If allowed to contact skin, it will cause severe freeze burn.
- ❖ Never overfill any nitrous cylinder. The maximum weight that any nitrous cylinder should weigh and be filled to is clearly labeled on the side of the cylinder.
- ❖ Always wear hand and eye protection when carrying out nitrous oxide filling procedures.
- ❖ Always use an airline water trap.
- ❖ Do not use an air line oiler with this pump.
- ❖ Never permit oil, grease or any other readily combustible substances to come in contact with cylinders, valves, solenoids, hoses and fittings.
- ❖ Oil and certain gases (such as oxygen and nitrous oxide) may combine to produce a flammable condition.
- ❖ Never deface or remove any markings which are used for content identification on compressed gas cylinders.
- ❖ Nitrous bottle valves should be closed when transfer pump is not in use.
- ❖ Keep valves closed on all empty bottles to prevent accidental contamination.
- ❖ After storage, open nitrous bottle valve for an instant to clear opening of any possible dust or dirt.
- ❖ Notify supplier of any condition which might have permitted any foreign matter to enter valve or bottle.
- ❖ Never drop or violently strike bottle.
- ❖ Do not over tighten any fittings.

WARNING: For maximum pump life the air supply should pass through a water separator and be filtered to 10 microns.

WARNING: Loose connections will result in high pressure leaks and can cause serious injury or death.

WARNING: Do not exceed 100 psi air pressure Pressures in excess of 100 psi can cause equipment damage and serious injury or death in the event of an explosion

INTRODUCTION

Your nitrous oxide transfer pump is designed for the filling of nitrous oxide bottles. For correct performance, it is essential that all instructions be followed carefully. Please read through the instructions and safety tips thoroughly before attempting to use your transfer pump. If you have any questions about its operation or components, please call the WON Technical Department at the number listed above.

INSTALLATION

- 1.1 When using a nitrous oxide source bottle without a dip tube, the bottle needs to be inverted, otherwise it should remain upright.
- 1.2 The nitrous pump should be attached to a mounting surface.
- 1.3 The pump requires:
 - ❖ A clean air supply connected to the pump air inlet port.
 - ❖ A clean source of liquid nitrous to the pump liquid inlet port.
- 1.4 For maximum performance, the pump's liquid inlet port should be below the liquid level in the reservoir.
- 1.5 For optimum efficiency the bottle should be positioned below the lowest point of transfer pump.
- 1.6 The pump should be securely mounted & four mounting holes are provided in the pump bracket for attachment to the mounting surface.
- 1.7 All plumbing must be rated to at least double the maximum operating pressures:
 - ❖ Connect driving air supply line to pump air inlet port.
 - ❖ Connect liquid supply line from reservoir to pump inlet check valve.
 - ❖ Connect system liquid feed line to pump outlet.

For pipe connections to the pump, pump installation & pneumatic supply, see Figure 1.

CONNECTIONS

- 2.1 Connect the hose from the Transfer Pump N20 outlet port (labeled “OUT”) to the nitrous bottle to be filled.
- 2.2 Connect the pipe from the Transfer Pump N20 inlet port (labeled IN”) to the nitrous source bottle via the bottle adaptor/filter fitting.
- 2.3 Connect your air supply to the Compressed air inlet port of the Transfer Pump.

PUMP OPERATION

- 3.1 Determine how much nitrous oxide is left in the cylinder.
- 3.2 If there is only a small percentage of nitrous left in the cylinder, open the valve and release all the contents of the cylinder to atmosphere.

NOTE: Lowering the temperature of the bottle to be filled will lower the bottle pressure and allow a complete fill.

- 3.3 Place the nitrous cylinder you intend to fill on an accurate scale.
- 3.4 **Make sure the lever operated 2 way valve on the Transfer pump nitrous inlet, is in the appropriate position (as shown in the diagram below), prior to activating the pump.**
- 3.5 Fully open the valve on the nitrous oxide source bottle.
- 3.6 Fully open the valve on the nitrous oxide cylinder to be filled.
- 3.7 Slowly open the air pressure control valve on the compressed air on/off valve assembly.
- 3.8 Watch the scale reading and close the air pressure control valve when the bottle being filled reaches the intended gross weight.

NOTE if the cylinder being refilled reaches 1100 psi before the full weight of the bottle is reached stop the pump by turning off the compressed air valve. Invert, then right the nitrous cylinder. Repeat several times until you feel the bottle temperature drop. You can then turn the pump back on and continue pumping.

- 3.9 Close the valve on the nitrous source cylinder.
- 3.10 Close the valve on the filled nitrous cylinder.
- 3.11 **Carefully** turn the lever operated 2 way valve on the Transfer pump nitrous inlet **clockwise**. **CAUTION:** This will vent the remaining nitrous from the supply line to the filled bottle, **avoiding the escaping nitrous from the open 3rd port.**
- 3.12 Disconnect the transfer pipe from the nitrous cylinder.

PLUMBING DIAGRAM

