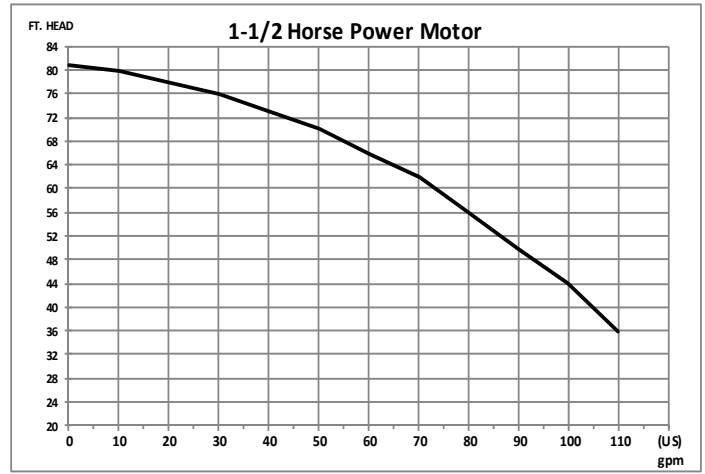
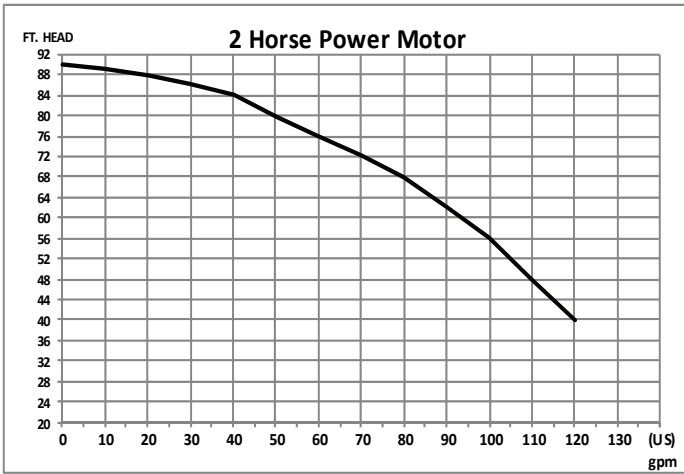


POWER-FLOW PURGE CART

OPERATION MANUAL



NOTE: Read the entire instruction manual before starting the installation.

WARRANTY

The Power-Flow Purge Cart is warranted for one year from date of sale. Alleged defective product must be returned to B&D Mfg., Inc., 901 9th Street, Scranton, Iowa 51462, for inspection via prepaid freight. Defective parts will be repaired or replaced at the manufacturer's discretion. No allowance for labor or property damage is implied. Warranty of performance is limited to the table provided with the unit.

INTRODUCTION

These instructions cover the use of the B&D Power-Flow Purge Cart Part No. GT-304SS-1.5 and GT-304SS-2. The Power-Flow Purge Cart is designed for flushing out air and debris in the loop field. It can also be used to introduce glycol into the system. The package contains a water holding tank, cart with solid foam tires, hose with camlock connections and a lift out filter screen for easy removal of debris.

SAFETY PRECAUTIONS

- ***Electrical Supply** to flush cart must be a single 20 amp, 120 volt circuit. If using extension cord, do not exceed manufacturer's rating for cord.
- ***Servicing** of closed loop systems should be performed only by **trained and qualified service personnel**. Proper precautions should be taken to minimize risk of electrical shock when using a flush cart. Wear proper safety glasses and work gloves.
- ***When transporting** the cart, be sure to keep cart in an *upright position and secured* to avoid any damage to the flush cart.
- *Be sure to drain the tank after each use to prevent damage to the rubber seals of the pump. It is best to store the flush cart in an area free of freezing temperatures.
- ***Must Read and Follow Anti-freeze Manufacturer's Recommendations and Procedures** for adding anti-freeze solution to the system.

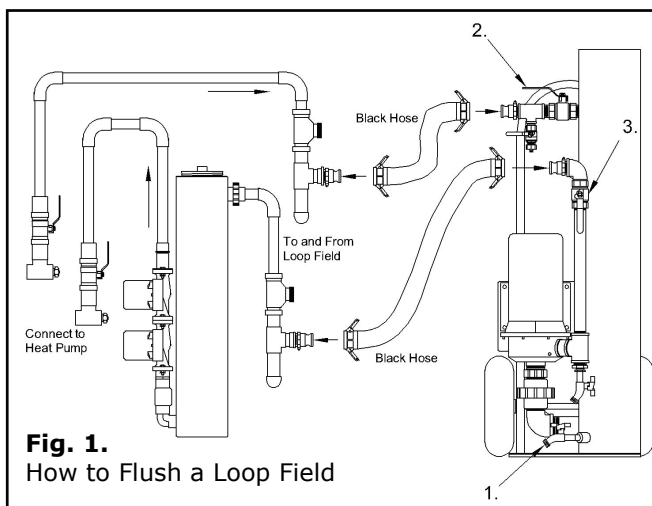
B&D Mfg, Inc
901 9th Street
Scranton, IA 51462
Phone (712) 652-3424
Fax (712) 652-3388
www.bdmfginc.com



ASSEMBLY INSTRUCTIONS

Open the crate and install the 13" wheels. That's it, because we have mounted our stainless steel tank, pump, motor and hoses securely to a heavy duty cart for easy handling. Everything has been factory tested so that when it arrives, it's ready to go.

CAUTION: Must read all instructions in this manual before operating the Power-Flow Purge Cart.



OPERATING INSTRUCTIONS

Connect the two provided camlock connections to the flush ports on the loop field piping system using sealant tape or compound to prevent leaks.

NOTE: If flushing a non-pressurized system be sure the flow center is properly isolated.

Fig. 1 (1.) There is a hose connection provided on the tank drainage connection to connect a water supply source. You may control the amount of water supplied to the tank by regulating the valve on the drainage port.

Fig. 1 (2.), (3.) Make sure return valve (2.) is closed and discharge valve (3.) is opened. Allow water to fill tank while observing the water level at the discharge valve. When water level is at the level of the discharging valve (3.), close the valve and allow the water to continue filling the tank to top of elbow. This will purge the air from the pump while filling the tank, preventing an air lock.

Check screen position in tank to be sure it is below the return elbow, so all water goes through the screen to catch debris.

NOTE: System should be filled with clean potable water.

Connect the provided hoses between the camlock connections on the purge cart with camlock connections now mounted in the flush ports.

Make sure the power switch is in the off position before plugging in the power supply.

Plug in power supply for flush system using only a **20 amp, 120 volt circuit**. If using an extension cord, do not exceed manufacturer's rating for cord.

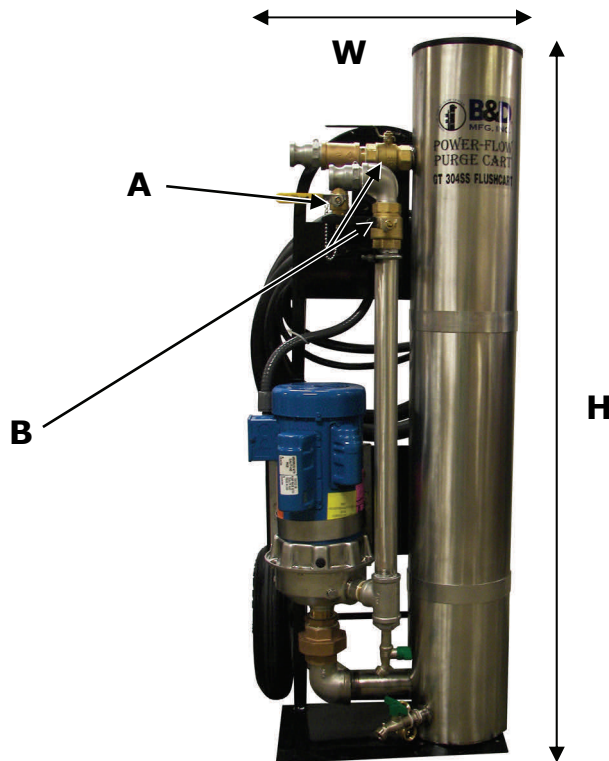
Open the valves on all of the fill and flush ports into the position that allows flow to and from the loop field.

Open the ball valves on the supply and return water lines of the purge cart system.

**** IMPORTANT **** Keep water supplied to flush system tank to prevent pump from being run dry. Do not allow flush tank to overflow.
**** NOTE ****

Turn on pump.

NOTE: If the pump is air locked, then turn the pump off. Disconnect the supply hose from the flush port and place in the top of the tank and turn pump on. This will prime the pump and allow water to circulate directly back to the tank. Re-attach the hose and begin the purging process over again.



MODEL GT-304SS-1.5
Weight: 192 lb.

MODEL GT-304SS-2
Weight: 196 lb.

*Dimensions are approximate

1.5HP Motor 115V or 2 HP Motor 115V

A = Anti-Freeze Flush Drain B = 1 1/4" Full Port Valves

H = 53" W = 22 1/2"

OPERATING INSTRUCTIONS

When *return* water flow from the loop piping is established, stop the addition of supply water to the flush system tank and **maintain a constant water level just above street elbow** by adding water as necessary. Continue flushing the loops until air ceases to escape from the flush system.

Check the system for proper flushing by closing the return water ball valve on the purge cart, carefully observing water level in the tank. The water level should not drop more than 2-4 inches, if it does then all of the air has not been removed from loop system. Continue opening and closing of the return valve while viewing the water level in the tank.

NOTE: Water level should be maintained to top of elbow when system is circulating and return valve is opened.

COMPLETED FLUSH OF SYSTEM CHECK

A proper flush of a system has been achieved when all valves in the system are opened and the water does not raise more than 2-4 inches when the power switch is placed in the off position.

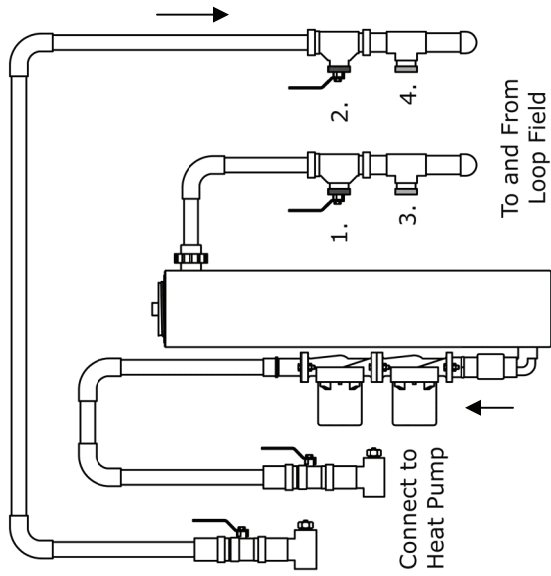
NOTE: The reason the water level changes is because the pressure from the pump will cause the polyethylene to expand. The raising and lowering of the water level is in proportion to the amount of system piping and the natural expansion of polyethylene when exposed to pressure.

To add anti-freeze solution, close valve on return side of flush tank and open the anti-freeze flush valve (make sure drain hose is attached to a separate container). If you know the amount of anti-freeze to add, you can discharge pure water from the purge cart and measure the amount in gallons. You can then add anti-freeze solution from the top of the purge cart. This will allow you to add a specific amount of anti-freeze to reach a desired concentration percentage. When the required amount of anti-freeze is added, close the anti-freeze flush valve and open return side valve on flush tank.

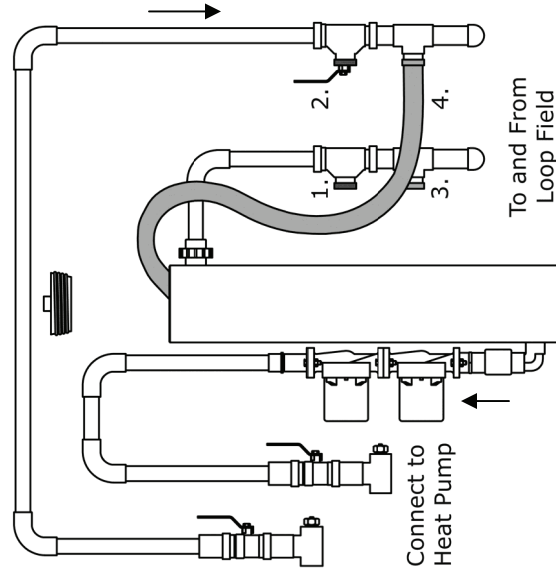
NOTE: Make sure the system is circulated for some period of time before measuring the concentration percentage. If using a non-pressurized flow center, please refer to "How to Flush an Earth Loop" to purge the air from the interior piping (page 4).

How to Flush an Earth Loop with a Buried Manifold

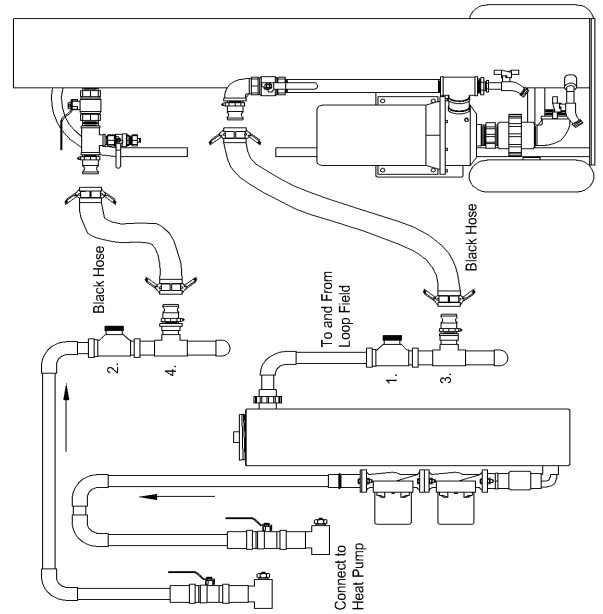
1. Close valves (1.) and (2.), located on lines to and from the loop field.
2. Remove screw caps from tees (3.) and (4.), then connect flush cart hoses to 1" MNT.
3. Flush and purge loop field thoroughly with flush cart.



- the GT®/QT® flow center pump(s).
7. Close valve (2.) and disconnect hose from tee (4.); screw cap back on.
 8. Open valve (1.) and (2.); start system.



4. Disconnect hoses from tees (3.) and (4.) Put cap back on tee (3.).
5. Connect 1" clear hose with swivel connector to tee (4.), put hose into top of flow center.
6. Open valve (2.) and turn on flow center; flush inside piping and heat pump with



9. Any small amounts of air remaining in the system will become trapped and isolated in the GT®/QT® flow center.
10. Check the flow with a flow meter tool. Fill flow center to bottom of dip tube elbow on a GT® flow center or to the top of the elbow on a QT® flow center.

