

# OPERATOR MANUAL

## High-Pressure Unit



**WARNING: Failure to comply with safety procedures in this manual places personnel health and safety at serious risk!**

- **Do not operate or perform maintenance on this equipment without reading the proper instruction manuals pertaining to its safe operation or repair.**
- **Never work on, or around machinery without wearing proper personal safety equipment.**
- **Never remove covers or guards from machine while electrical power is connected, or air pressure is applied.**
- **Never attempt to repair or adjust pressure devices without disconnecting electrical power and draining all liquid from interconnecting hoses, pipes, or tubes.**
- **Never operate machinery with safety covers removed.**

## INTRODUCTION

The Jorgensen Conveyors High-Pressure Unit is shown in block diagram form in Figure 1. Views of the equipment are shown in Drawing 41-5914 (at the end of this manual).

The unit provides secondary filtration, and is capable of developing and delivering coolant to machine tools at pressures of 1000 psi

Detailed equipment information and instructions are provided in the following appendices:

Appendix A – Plunger Pump

Appendix B – Regulating Unloader

Appendix C – Pulsating Dampener

## INITIAL SET UP

### High-Pressure Cell Installation

The unit itself is connected and set up at the factory. Complete setup and installation at the site as follows:

1. Level the unit during installation.
2. Install coolant piping to the bag filter from the supply pump as indicated in Drawing 41-5914.
3. Install piping from the overflow back to the primary filter system or trough.
4. Connect piping from the high pressure outlet to the machine. Be sure to use high-pressure hose or pipe.
5. Connect wiring to the motor and liquid level sensor. Note that a terminal panel is not supplied for these connections.
6. Check the oil level of the pump (refer to Appendix A).
7. Check motor and pump rotation. For optimum performance, the pump should be operated in a forward rotation. (*Standing behind the motor, rotation should be counterclockwise.*) This takes full advantage of the oil bath lubrication, and assures that the cross heads are fully lubricated.
8. Check and tighten all mounting bolts that may have loosened during shipment.

### Adjusting The Operating Pressure

Proceed as follows:

1. Upon initial startup, back off the regulating unloader (Figures 1 and 3) to the lowest pressure (counter clockwise).
2. Open coolant flow to the machine tool. Start the pump to allow air to escape from the system. The unit is now ready for pressure adjustment.
3. With the “smallest” tool in place, start the system. (The regulating unloader should still be set to its lowest pressure.)
4. Open the two manual valves to allow coolant to flow to the bag filter, tank and pump (Figure 3).
5. After the tank fills, and the system stabilizes, read the pressure gauge at the pump outlet (Figure 4).
6. If more pressure is desired, slowly turn the adjusting knob/bolt on the regulating unloader clockwise to increase pressure to the desired level.

**IMPORTANT: At all times during setup or adjustment, monitor bypass flow. If bypass flow drops below 10 percent of rated regulator flow, stop adjustment. This system must always bypass at least 10 percent of the rated regulator flow or the pump may become damaged. To increase bypass flow, pressure must be decreased. Turn the adjusting knob/bolt on the regulating unloader counter clockwise until 10 percent bypass is attained.**

7. Once the desired pressure is attained using the smallest tool, and bypass of at least 10 percent is attained, shut down the system and close the coolant flow to the machine tool.
8. Install the tool with the largest orifice.
9. Open coolant flow to the tool, and check the reading on the pressure gauge located at the pump outlet (Figure 4).

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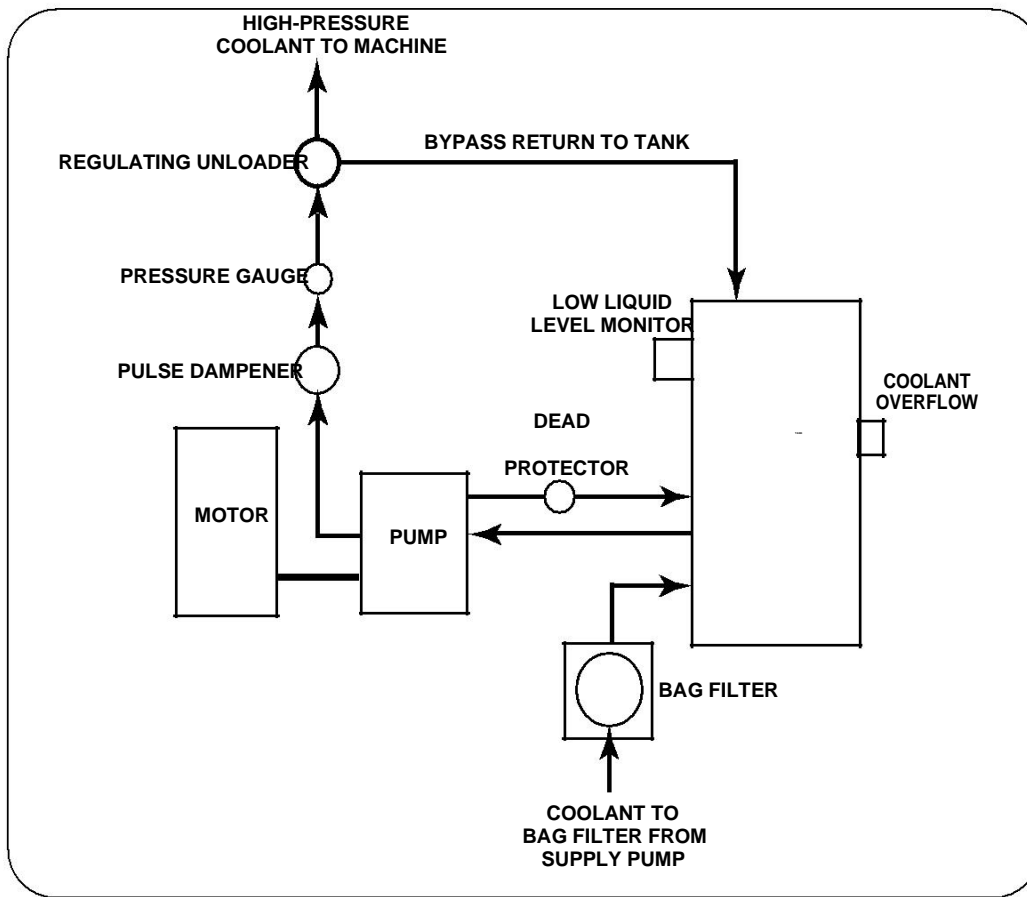


Figure 1. System Block Diagram

**flow or the *pump may become damaged*. To increase bypass flow, pressure must be decreased. Turn the adjusting knob/bolt on the regulating unloader counter clockwise until 10 percent bypass is attained.**

If a bypass of at least 10 percent *cannot* be attained, the flow requirements of that tool exceed the rated flow of the pump. A larger pump with greater flow may be required for that tool.

When using multiple tools, pressure to the larger tools may fall off. If the pressure is lowered for the larger tools to achieve the 10 percent bypass requirement, the smaller tools will also experience lower pressure.

### BAG FILTER CHANGEOUT

The filter is located in the reservoir without a canister. In this design the reservoir is equipped with a low-liquid-level sensor that activates to indicate that the filter requires replacement or cleaning.

The system of valving for the inlet to the bag filters allows one bag filter to be changed without shutting down the system (refer to Drawing 41-5914). Open the ball valve in the pipe leading to the clean filter, and close the valve leading to the dirty filter. When the valve is closed, the bag can be replaced as follows:

1. Turn the wing nuts out.
2. Remove the external cover.
3. Turn the handle until the flats line up with the lug.
4. Pull the bag out with the string, and discard the bag.
5. Insert a new bag and re-assemble.

## WARRANTY

Jorgensen Conveyors, Inc. guarantees the material of our manufacture against defects in material or workmanship under normal and proper use for one year in service or eighteen months from shipment, whichever occurs first. Material which we purchase can be guaranteed by use only to the extent of the original manufacturer's guarantee. We shall not be held liable for damages or delay caused by defective material, or contingent claims of any kind arising from loss of production owing to failure of shipment. Our obligation under this warranty is limited to furnishing new or replacing defective material without charge f.o.b. factory. No allowance will be made for repairs or alterations unless made with our written consent.

Caution should be used in the care and application of our products as the guarantee recited above does not apply where lack of proper maintenance or misapplication exists. We will not be liable for improper storage or handling of our products prior to placement in service.

The within equipment will be specifically designed and manufactured for and will be sold to purchaser for the sole purpose of transporting and conveying raw materials, work in process and finished goods of purchaser. Purchaser does hereby agree to exonerate, indemnify, defend and hold seller harmless of and from all loss, liability and damages which may be suffered by or asserted against the seller, and all costs and expenses which seller may incur because of any claim or claims which may be asserted against seller by any person for death or injury to anyone sustained while riding or attempting to ride upon said equipment.

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