

# TRAVAINI PUMPS U.S.A., INC.

## LIQUID RING VACUUM PUMPS

### INITIAL STARTUP PROCEDURE

*Note: Consult your local distributor if assistance is required*

Prior to installation, check that all protective inserts (plugs) fitted in the gas and service liquid connections of the pump are removed. Ensure flanges have gaskets and are tight. Gaskets are not supplied on bare pumps.

Piping connected to the pump must be installed without imposing any strain on the pump. Improperly installed piping can result in misalignment, rubbing of internal parts, etc. Use flexible connectors when necessary.

Piping should be cleaned properly before installation and at least of the same size as the corresponding pump connections.

It is recommended that a temporary screen be installed in the inlet to the pump unit at first start-up to protect the unit against carry-over of pipe debris and welding slag. This screen can be removed after the initial run in period.

If the possibility exists that the pump inlet can become closed during operation, it will be essential to install some type of vacuum relief so that air can enter the system. **NEVER RUN A PUMP WITH SUCTION CLOSED.** A check valve suitable for vacuum service and providing a minimum of resistance must be installed in the suction line as close to the pump as possible, to prevent back flow of the process gas and sealing liquid into the system when the pump is stopped.

1. Verify that the electrical power to the equipment is off.
2. Check the drive coupling alignment. Adjust the driver if necessary. On monoblock units, the alignment is preset, along with the coupling gap.
3. Check the drive coupling hub spacing. The flexible element should be allowed approximately 1/16" of free axial movement. Adjust if necessary. Tighten set screws.
4. Rotate the pump by hand to ensure that it turns freely. During the time between manufacture and start-up, a slight film of rust may form on the portplates, causing the pump to be hard to turn. If this is the case, fill the pump with a rust inhibitor and wait until it can be turned by hand. Drain the pump.

5. Fill the pump with clean sealing liquid up to the shaft level. Do not start the pump when the liquid level is above the shaft level, as the increased starting torque can cause damage to the pump internals and/or the driver.
6. Reinstall any safety guards or covers that may have been removed.
7. Open valve in suction line. Never start a pump with a closed inlet.
8. Verify that all valves required for operation are open. (Sealing liquid, cooling water, etc.)
9. Turn on the electrical power to the equipment. Verify that all phases are energized, and that the voltage is correct.
10. Check the driver rotation by jogging it for a period of less than one second. Correct direction of rotation is indicated by an arrow on the pump casing. Normal direction is clockwise facing shaft.
11. Start the driver, and if necessary adjust the sealing liquid flow for optimum performance. Units fitted with a compound gauge and a manual regulation valve should have the valve adjusted so that the gauge reads 0 -5 psig at vacuum levels from 0- 24" and 0- 10" vacuum for levels higher than 24" Hg.
12. Check the temperature of areas such as the bearing housings, pump and motor casings, and discharge piping for unusually hot spots.
13. Check that the motor current drawn is within specifications.

*Note:* Pumps with grease fittings should be checked for proper grease prior to start-up. Smaller pumps (10HP and below) have sealed bearings, no grease required.

