

# PyroFoam Direct Injection Foam System *(optional)*

## Specifications and Operation Instructions

### Foam Procedure

1. The Poly-Tank® Foam Tank must be completely filled and covered when not in use.
2. At no time should two different types or brands of foam be stored in the same foam tank.
3. Foam concentrates should be tested annually to ensure optimum performance.
4. When changing foam brands, concentrates or performing maintenance, the foam tank and system must be thoroughly flushed to ensure proper operation. Consult foam manufacturer's instructions for proper flush operations.
5. The foam tower has been designed to be removed to help facilitate the cleaning of the foam tank. When re-installing the foam tower, torque the bolts to 20 in-lbs, starting with the four corner bolts. Repeat torque sequence.
6. This equipment complies with all applicable NFPA standards at time of manufacture.

### Foam System Operation

#### To begin foam operations:

1. Ensure the foam tank(s) contain concentrate.
2. Select the foam tank to be used using the Foam Selector Valve on the pump panel.
3. Select the PyroBlitz on the Hose Selector Valve on the pump panel.
4. Turn On the Foam On/Off Switch on the pump panel.
5. Ensure the PyroLance/PyroBlitz system is running, (see General Operations Section) and begin foaming operations as required.

#### To change foam concentrates (if equipped with a Class A/B foam system):

1. Ensure the PyroLance/PyroBlitz system is running, (see General Operations Section).
2. Keep the Foam On/Off Switch in the On position.
3. Turn Foam Selector Valve to the Flush position.
4. Open the PyroBlitz nozzle and flow water for a minimum of 12 seconds.
5. Select the foam tank to be used using the Foam Selector Valve on the pump panel.
6. Continue foaming operations as required.

#### To end foam operations:

1. Ensure the PyroLance/PyroBlitz system is running, (see General Operations Section).
2. Keep the Foam On/Off Switch in the On position.
3. Turn the Foam Selector Valve to the Flush position.
4. Open the PyroBlitz nozzle and flow water until the discharge is flowing only plain water.
5. If Winterization is required, proceed to Winterization Procedures.
6. Turn the Foam On/Off Switch to Off.

### Winterization Procedures (added steps):

1. Turn the Foam On/Off Switch to the On position.
2. Turn the Foam Selector Switch to the Flush position.
3. After, Winterization Operations are complete, turn the Foam On/Off Switch to the Off position.

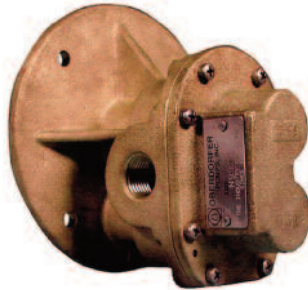
### Maintenance (added steps):

1. Never mix dissimilar concentrates in the foam tank(s).
2. Always flush the entire system with plain water when changing from one concentrate to another, and at the end of foam operations.
3. Winterize the system whenever the system will be exposed to freezing conditions.
4. Inspect and clean Foam Concentrate Strainers weekly.

## Rotary Gear Pumps

### General Description

Pump housings and gears are made of top quality bronze, shafts are stainless steel 303. Bearings are made of high performance carbon-graphite material selected for wear resistance and long service life.



Gear pumps are positive displacement pumps. Each shaft revolution displaces a definite amount of liquid relatively unaffected by the back pressure in the discharge line. Shaft speed and flow are directly proportional.

### Drive Arrangement

Close coupled pumps are mounted directly to the electric motor by means of a suitable adapter bracket. The pump drive shaft is connected to the motor shaft by a flexible coupling.

### Liquids and Temperature

These pumps are suitable for all liquids that are compatible with bronze. Most common liquids are water, oil, and mild chemicals in the pH-range of 4 to 11. Viscous liquids require reduced shaft speeds of 1150 RPM or lower. Consult factory.

Liquids containing solids, abrasives, powders or paint pigments are definitely not recommended for gear pumps. If abrasives are unavoidable, use a very low shaft speed. The recommended liquid temperature range is 32°F to 140°F for longest pump life. If more extreme temperature conditions exist, our factory should be consulted. Freezing of water-filled pumps can cause damage and must be avoided. Oils at low temperatures are very viscous requiring a lower speed or extra power.

### Suction Lift

As a general rule, the suction lift should be kept at an absolute minimum by placing the pump as close to the liquid source as possible. A gear pump in new condition can lift 20 feet of water in the suction line. A foot valve (preferably with built-in strainer) is recommended at the beginning of the suction line. For a first start-up, the pump should be primed to avoid dry running. Minimum size of the suction pipe is the size of the pump inlet port. For longer suction lines (over 3 feet), or for viscous liquids, the pipe size should be at least one size or two sizes larger than the pump inlet port.

For complete Oberdorfer Pump literature, go to [pyrolance.com](http://pyrolance.com).

### Rotation and Relief Valve

The relief valve is not intended to be a metering or flow control device. Its main purpose is to function as a discharge pressure relief when the spring tension is exceeded by the discharge pressure. Overheating can occur within 5-10 minutes if the discharge line is completely shut off for extended periods.

Unless otherwise specified, the pump motor unit is supplied by the factory for shaft rotation clockwise from shaft end. Reversing the motor rotation will reverse the "in" and "out" ports and also requires changing the relief valve location. The relief valve is always on the discharge side in this pump series. The factory pressure setting is 50 PSIG. To increase pressure, turn the relief valve adjusting screw in a clockwise direction.

To reverse single phase motors, find instructions on the inside of the junction box cover or on the name plate of the motor.

Three phase motors are not wired for any particular rotation. They can be reversed by interchanging any two (2) wires of the three (3) wire leads.

### Performance

Water 70° F

| 1725 R.P.M. |      |         |          |             | Pump & Motor No. |             |
|-------------|------|---------|----------|-------------|------------------|-------------|
| PSI         | GPM  | HP Req. | HP Motor | Motor Frame | Single Phase     | Three Phase |
| 0           | 23.3 | 0.90    | 1        | 56C         | N990HN26         | N990HN95    |
| 20          | 22.9 | 1.19    | 1 1/2    | 145TC       | N990JT45         | N990JT95    |
| 40          | 22.5 | 1.53    | 1 1/2    | 145TC       | N990JT45         | N990JT95    |
| 60          | 22.1 | 1.92    | 2        | 145TC       | N990JW 45        | N990JW 95   |
| 80          | 21.7 | 2.25    | 3        | 182TC       | N990KY45         | N990KY95    |
| 100         | 21.3 | 2.70    | 3        | 182TC       | N990KY45         | N990KY95    |
| 125*        | 20.7 | 3.15    | 3        | 182TC       | N990KY45         | N990KY95    |
| 150*        | 20.1 | 3.70    | 5        | 184TC       | N990KX45         | N990KX95    |

| 1150 R.P.M. |      |         |          |             | Pump & Motor No. |             |
|-------------|------|---------|----------|-------------|------------------|-------------|
| PSI         | GPM  | HP Req. | HP Motor | Motor Frame | Single Phase     | Three Phase |
| 0           | 15.3 | 0.58    | 3/4      | 56C         | N990HM46         | N990HM96    |
| 20          | 15.0 | 0.77    | 3/4      | 56C         | N990HM46         | N990HM96    |
| 40          | 14.7 | 1.10    | 1        | 145TC       | N990JN46         | N990JN96    |
| 60          | 14.4 | 1.40    | 1 1/2    | 145TC       | N990JT46         | N990JT96    |
| 80          | 14.1 | 1.80    | 2        | 182TC       | N990KW46         | N990KW96    |
| 100         | 13.7 | 2.10    | 2        | 184TC       | N990KW46         | N990KW96    |
| 125*        | 13.1 | 2.60    | 3        | 213TC       | N990LY46         | N990LY96    |
| 150*        | 12.5 | 3.10    | 3        | 213TC       | N990LY46         | N990LY96    |

\*For pressures over 100 psi, the above selections are suitable for pumping fluids with lubricity (e.g. oils, polymers). Service life will decrease for fluids without lubricity (e.g. water, solvents).

# Operation Instructions

## Foam System Flow Schematic and Major Components

