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Important Safety Instructions

Safety is Everyone’s Responsibility

**WARNING**
Extremely high forces are involved in many pipeline-plugging situations that may cause injury or even death. Forces increase dramatically as pressure and pipe diameter increase. Extreme care is required to ensure the safe use.

- Debris or protrusions into the pipeline can damage a seal or reduce the pressure rating. NEVER use a test pressure greater than the capacity of the weakest pipe or component in the system.
- Do not exceed the pressures on the data label.
- Never use equipment when a failure could result in injury or significant property damage.

Safety Inspections

**CAUTION**
Do not use air inflation components if the components have or show signs of wear or deterioration.

- Inspect each air inflation component for abrasions, cuts, punctures, bulges, cracks, corrosion, loose or damaged fittings & components, leaks, or any physical damage. Clean if required.
- Verify that the connections and hoses are not damaged or leaking.
- Use calibrated gauges that agree to monitor pressures. Failure to use calibrated gauges could result in a failure, which could result in injury or significant property damage.

Operating Safety

**CAUTION**
Keep all personnel away from the inflation area.

- Wear PPE including but not limited to eye protection, helmet, hearing protection.
- Follow all confined space safety controls. Confined space authorization, air monitor, and ventilation may be required.
- Inflate with air or inert gasses, e.g., nitrogen.
- Gather all required tools. Have all personnel ready when installing and removing.
- Because of the many possible variables, these general instructions must be adapted by an engineer for each specific project. Instructions and training must be provided to all plug users and workers on the job.
- Consult qualified personnel if you cannot calculate the risks or forces involved. **Contact the project engineer or Petersen if needed. Safety is the highest priority.**
Overview

Pressure Gauge

Low Pressure Alarm

Inflation or Pressure Monitoring Hose

Pressure Monitoring Valve

Inflation Controller

Relief Valve

Venturi Vacuum Generator
Assembly Overview

- Inflatable Device
- Pressure Monitoring
- Inflation Line
- Low Pressure Alarm
- Supply Air
- Pressure Gauge
- Pressure Monitoring Valve
- Pressure Relief Valve
- Inflation Controller with Pressure Regulator
Inflation Controller

Petersen Inflatable devices are equipped a relief-style pressure regulator.

- **Quick Connect Output** – ¼ inch coupling connects to Pressure Gauges and Pressure Relief Valves.
- **Regulator** – Maintains delivers constant pressure to the Inflatable Plug. The Regulator slowly bleeds any increases in air pressure. The Regulator uses a relief-style design.
- **Pressure Gauge** – Displays the actual input pressure reading.
- **Inflation Source Valve** – Controls the inflating pressure input.
- **3-Way Valve** – Controls the inflation pressure to inflate the Inflatable Plug or deflate out to the atmosphere.

Pressure Monitoring Valve

- Used for pressure monitoring generally when an inflatable device has a separate pressure monitoring port from the one used for inflation. May also be used for inflation when the above Regulator Inflation Controller is not required for a regulated source pressure.
- Valve is used for deflation out to atmosphere.
- Two ¼ inch Quick Disconnect Couplings are for two Pressure Monitoring Gauges and/or a Pressure Relief Valve.
Pressure Gauge

- Connects with the Inflation Controller or Pressure Monitoring Valve.
- Only adjust to 10% over the rated pressure of the Inflatable Plug.

Relief Valve

- Connects with the Inflation Controller or Pressure Monitoring Valve.
- Bleeds any increases in air pressure to avoid over inflation.
- Only adjust to 10% over the rated pressure of the Inflatable Plug.

Adjusting the Pressure Relief Valve

1. Connect the Relief Valve to a pressure source. Regulate the pressure to low range of the Relief Valve.
2. Increase the pressure on the inflation device 10% above the required pressure.
3. Carefully the Adjustment Screw just until the Relief Valve opens, and flow can be heard escaping.
4. Decrease the source pressure to verify the Relief Valve closes at the rated pressure on the inflatable device.
Petersen Low Pressure Alarm

NOTE
The Low Pressure Alarm is available for all inflatable devices.

- Never connect the Alarm to a pressure higher than the high-pressure limit.
- Standard Alarms are available for 0-15 psi, 10-90 psi, 20-300 psi, and 20-500 psi.
- The Inflatable Plug rated pressure should be within the Alarm high and low pressure rating. The Inflatable Plug pressure rating should be around the mid-range of the Alarm.

Venturi Vacuum Generator

Use the Venturi Vacuum to deflate the Plug faster when the pipeline is not pressurized.

- Used for vacuuming especially large inflatable devices to a small size.
- Equipped to connect directly with Inflatable Plug.
Inflating with the Air Inflation Controller

CAUTION
Wear eye protection.
Never exceed the Maximum rated inflation pressure.
Never use a gas cold enough to crystallize rubber.

2. Open the 3-Way Valve. Connect the Inflatable Plug.

NOTE
Hoses must be long enough to monitor the Inflatable Plug from a safe distance.

3. Connect the Inflation Source Hose to Inflation Source Input.
4. Connect the Inflation Hose to the Inflatable Plug and Outlet Valve.

5. If the Inflatable Plug is equipped with a Pressure Monitoring Port:
   - Connect the Pressure Monitoring Hose to the Inflatable Plug and the Inflation Source Input Valve on the Pressure Monitoring Valve.

6. Connect the Pressure Gauge and Pressure Relief Valve to the Output Quick Disconnects on the Inflation Controller. Open the Inflation Source Valve and 3-Way Valve.

NOTE
Rated pressure should be between 25% and 75% of the gauge max.

7. Adjust the Regulator to the required pressure for the Inflatable Plug.
8. If the inflation source is removed:
   - Close the Inflation Source Valve to prevent any bleed-back through the Regulator.
9. Monitor the inflation pressure.

**Deflating the Inflatable Plug**

2. Open the 3-Way Valve release the air pressure.

**Deflating with the Venturi Vacuum Generator**

1. Verify that the Supply Port Valve is closed on the Venturi Vacuum Generator.
2. Turn off the Air Supply Valve on the Air Controller. Allow the plug inflation pressure to escape.
3. Connect an Air Supply Hose to the Supply Input Port on the Venturi Vacuum Generator.
4. Move the Plug Inflation Hose from the Inflation Controller to the Vacuum Generator Quick Connect Coupling.
5. Set the Inflation Source pressure up to 100 psi and open the Air Supply Valve.
   **NOTE:** Do not exceed 100 psi.
6. Open the Supply Port Valve on the Venturi Vacuum Generator.
7. You will hear an audible change in sound when the vacuum pressure increases, indicating the inflatable device is fully deflated.
8. A Pressure Monitoring Valve with a Vacuum-Type Pressure Gauge can be connected between the Venturi Vacuum Generator and the Plug Inflation Hose to monitor the vacuum.
Cleaning and Storing

1. Before and after each use, inspect the Air Inflation Deflation Components for any possible physical damage.
2. Clean with mild soap and water.
3. Verify that each component is empty of water and dry prior to storage in a dry location.
4. Keep the instructions with the Air Inflation Deflation Components.

Do not use the product if there is significant wear or damage or return to Petersen for repair and recertification.

Call Petersen with any questions. We’re here to help.

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