

## PETERSEN® 161-9 SERIES CYLINDER LIFTING AIR BAGS

### OPERATING INSTRUCTIONS

#### **WARNING!**

*Read and understand instructions before using Petersen® Bags. Failure to comply may result in property damage, serious injury or death!*

- **Never suspend load over a person or where its failure would cause significant damage.**
- **Never exceed the rated inflation pressure.**
- **Never inflate the Cylinder Lift Bag to more than 5% of the rated pressure when it is not supported on the entire outer diameter.**
- **Never have personnel in line with unsupported ends of an inflated Cylinder Lift Bag.**
- **Each operator must read and understand these instructions as adapted for local requirements.**

#### **1. Basic Conditions and Limitations**

- 1.1. These instructions contain basic Cylinder Lift Bag operating instructions. The selection and application of a Cylinder Lift Bag must be made by the customer based on factors such as lifting environment, safety requirements, load weight, lifting height, and the shape of the load. The manufacturer does not assume any responsibility for personal injuries or material damages arising from use or misuse of Cylinder Lift Bags and their accessories. Actual conditions of lifting techniques and characteristics vary considerably with each application and every situation has different requirements. A qualified engineer must adapt these instructions to location specific safe working requirements.

#### **2. General Guidelines For Safe and Efficient Use of Cylinder Lift Bags**

- 2.1. Always wear protective clothing when using Cylinder Lift Bags. Firemen and rescue-team members must be equipped completely in accordance with their safety requirements. Other users should wear safety helmet, safety glasses, and gloves or other safety equipment as required.
- 2.2. The Cylinder Lift Bags and the contact surface should be clean and especially free of oily or slippery substances.
- 2.3. Cylinder Lift Bags should always be attached to a crane or hoist and lifted in a way that will not damage the Cylinder Lift Bag or inflation ports.
- 2.4. Cylinder Lift Bags should not be exposed to temperatures above 225°F.
- 2.5. The work place must be well illuminated with good visibility.

#### **3. Inflation**

- 3.1. Components required for operating most Cylinder Lift Bags.
  - 3.1.1. Inflation source capable of maintaining the required inflation pressure at the rate required by the lifting cycle.
  - 3.1.2. Pressure regulator to maintain the rated pressure.
  - 3.1.3. Two Pressure Gauges for redundant pressure monitoring.
  - 3.1.4. Three way valve between the regulator and the Cylinder Lift Bag for inflation and deflation.
  - 3.1.5. Pressure relief valve set at 10% over rated Cylinder Lift Bag inflation pressure.
  - 3.1.6. Inflation hoses with ample pressure rating suitable for the operating environment.

## 4. Installation

- 4.1. Turn off the inflation source valve and set the pressure regulator to 0 psi.
- 4.2. Connect the Cylinder Lift Bag to the inflation source hose after it is secured to the lifting crane.
- 4.3. Adjust the pressure regulator to the Cylinder Lift Bag rated pressure with the valve between the regulator and Cylinder Lift Bag turned off.
- 4.4. Never inflate the Cylinder Lift Bag to more than 5% of the rated pressure when it is not supported on the entire outer diameter.
- 4.5. Insert the Cylinder Lift Bag into the load with the outer diameter completely supported by the load.

## 5. Moving The Load

- 5.1. Inflate the Cylinder Lift Bag to its rated pressure.
- 5.2. Verify that the path for load movement will not put the load over any person or object where losing the load may cause injury or significant damage.
- 5.3. Check the inflation pressure gauges to verify inflation is at the rated pressure.
- 5.4. Lift the load slowly and move carefully to its destination.
- 5.5. Verify the inflation pressure gauges are still at the rated pressure.
  - 5.5.1. If the pressure had dropped during the load movement have the Cylinder Lift Bag tested for pressure holding.
- 5.6. Release the inflation pressure.
- 5.7. Verify the inflation pressure gauges are zero.
- 5.8. Raise the Cylinder Lift Bag out of the load and repeat the process to move the next load.

## 6. Cleaning after use

- 6.1. Cylinder Lift Bags should be kept clean of oil or grease that may damage the Cylinder Lift Bag or cause the load to slip.
- 6.2. Clean any dirt out of the inflation port with a vacuum, thin piece of wire, and/or brush.
- 6.3. Clean the Cylinder Lift Bag surface with a brush with stiff non-metallic bristles to remove dirt with a light solution of warm water and a dish washing detergent.
- 6.4. Rinse the surface with fresh water to remove all remaining dirt and detergent. Let the Cylinder Lift Bag dry in an open dry atmosphere.

## 7. Preventive Maintenance

- 7.1. Cylinder Lift Bags in storage also require periodic inspection for damage. Check the cleaned Cylinder Lift Bag for air blisters, notches or worn sections. Mark any damage or defect and consult the manufacturer. Check the inflation port for any damage which could disable the connection. Replace the nozzle, if necessary.

## 8. Storage

- 8.1. Store the Cylinder Lift Bags in a clean dry area away from sunlight where they will not be damaged by other items in the area.

## 9. Testing

- 9.1. Visually inspect Cylinder Lift Bag for cuts, tears, significant abrasion or other damage. Take out of service if the Cylinder Lift Bag appears damaged in any way.
- 9.2. Insert Cylinder Lift Bag into a cylinder at its designed diameter.
- 9.3. Attach an inflation hose with two redundant pressure gauges between a valve and the Cylinder Lift Bag.
- 9.4. Inflate to the rated pressure.
- 9.5. Turn off the source inflation pressure.
- 9.6. Allow time for the Cylinder Lift Bag pressure to stabilize.
- 9.7. Observe the inflation pressure gauges over time.
- 9.8. Take the Cylinder Lift Bag out of service if it does not maintain inflation pressure for several hours.