MINTEK
RESOURCES

STANDARD OPERATING PROCEDURE

MINTEK RESOURCES STORAGE PIG

IMPORTANT

The information in this operating manual is for informational purposes only.

Read this entire document carefully to ensure proper operating use.

Failure to read and follow instructions and warnings in this document may result in death or serious injury to yourself or others, damage to the Mintek Storage PIG, or damage to other objects in the vicinity. This document and all other collateral documents are subject to change at the sole discretion of Mintek Resources, Inc. (Mintek). By using our PIGs, you hereby acknowledge that you have read this disclaimer and associated warnings carefully and that you understand and agree to abide by the terms and conditions herein. You agree that you are solely responsible for your own conduct while using the PIGs, and for any consequences thereof. You agree to use the PIGs solely for purposes that are proper and in accordance with all applicable laws, rules, and regulations, and all terms, precautions, practices, policies, and guidelines Mintek has made and may make available. Mintek accepts no liability for damage, injury or any legal responsibility incurred directly or indirectly from the use of the PIGs. The user shall observe safe and lawful practices including, but not limited to, those set forth in this document.

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SECTION 1: GENERAL INFORMATION ABOUT MINTEK STORAGE PIGS

1.1 Mintek PIGs are intended to store dry bulk powders. In general, PIGs can hold approximately 4 - 6 standard pneumatic loads of material (approximately 100 - 125 tons).

1.2 The PIG should be positioned on a hard level surface with all support legs completely lowered and secured.

1.3 Before loading or unloading a PIG, take note of the location and condition of hatches, aerator seals, pressure gauges, hoses, and valves (Figure 1). Clear debris and repair or replace any damaged equipment.

Warning! Pressurized equipment can be dangerous and potentially fatal.

1.4 At the end of service, the PIG must be unloaded and empty before it can be removed from the site.

Have a question?
Contact your Mintek salesperson directly or dial **937-431-0218.**

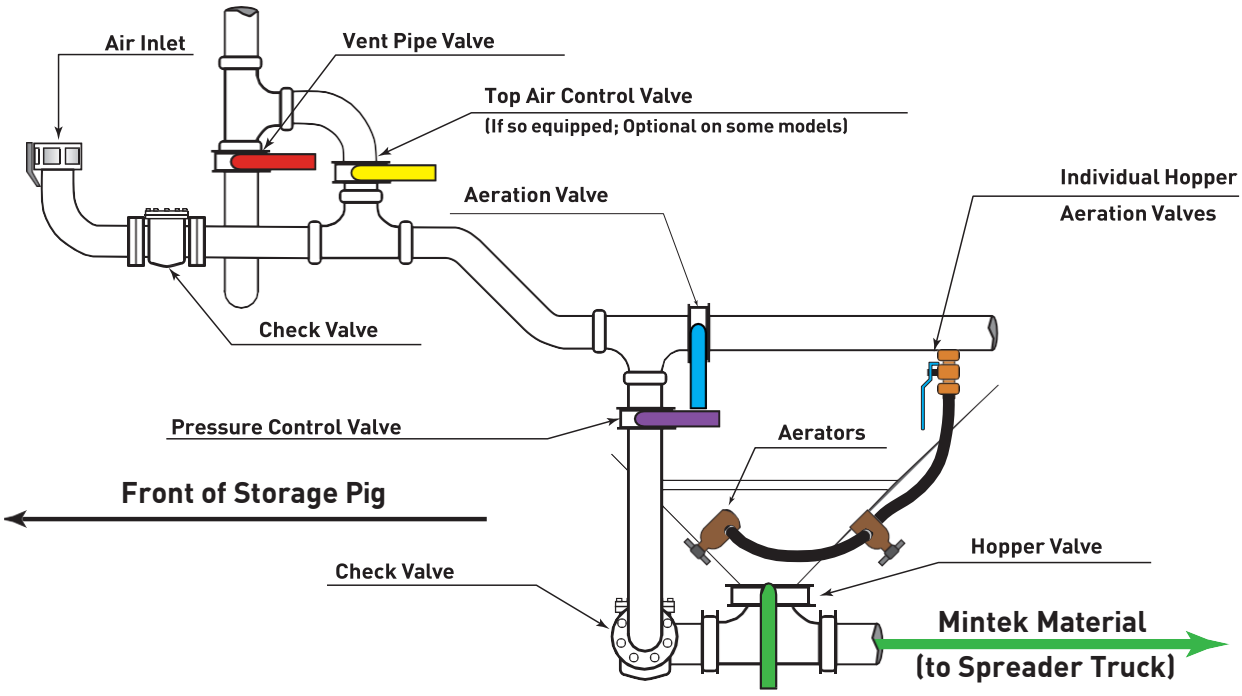

FIGURE 1. PIPING SCHEMATIC

SECTION 1 CONT.

1. Air & Electrical Connections
2. Loading Pipes
3. Pressure Control Valve
4. Check Valve
5. Pressure Gauges
6. Hatch
7. Support Legs
8. Product Delivery Hose
9. Pressure Safety Valve
10. Air Discharge Valve
11. Hoppers
    (each with Aerator Valves on the side and Hopper valves at the bottom.)

FIGURE 2. POINTS OF INTEREST

SECTION 2: PIG SET UP

2.1 Initial PIG Set Up

2.1.1 Locate or prepare an area for the PIG. The location shall be relatively flat, level and provide easy access for truck deliveries while not creating an area where water can collect.

2.1.2 Move the PIG into place.

2.1.3 Lower the front support legs.

2.1.4 Disconnect the PIG from the delivery truck.

2.1.5 Lower all the remaining support legs (Figure 3).

FIGURE 3. PIG PROPERLY STABILIZED WITH ALL SUPPORT LEGS LOWERED

Warning! Failure to lower all support legs before loading material into the PIG can result in major damage. It is vitally important that all support legs are lowered to properly distribute the weight.

Larger pads may be necessary under the normal support legs. If pads are needed, they must be furnished by the lessee.

2.2 Moving the PIG to Another Location on the Same Site

2.2.1 Empty the PIG.

Follow the steps in Section 6, PIG cleanout, to minimize the amount of material remaining in the PIG.

Warning! The PIG is not designed to be moved with material in the unit. Severe damage may occur if more than a residual amount of material is in the PIG when moving.

SECTION 3: LOADING MATERIAL INTO A PIG FROM A DELIVERY TRUCK

3.1 Close all hatches on the PIG.

3.2 Close all valves on the PIG, including those to pipes that will be used for venting or transferring material.

3.3 Connect the delivery truck to the PIG loading pipe via a product hose.

3.4 Connect the vent pipe to a filter medium to prevent exhaust dust from escaping the system. For example, a filter sock, portable baghouse, or equivalent like shown in Figure 4.

3.5 Open the vent pipe valve.

3.6 At this point the delivery driver can begin to unload product into the PIG.

FIGURE 4. PICTURE OF VENT PIPE CONNECTED TO A FILTER SOCK

SECTION 4: TRANSFERRING MATERIAL FROM THE PIG TO A SPREADER TRUCK

4.1 Before Transferring Material

4.1.1 Close and secure all hatches.

4.1.2 Close vent pipe valve.

4.1.3 Close all valves to pipes that will be used for transferring material or venting.

4.1.4 Open pressure control valve.

4.1.5 Close all hopper valves.

4.1.6 Make sure the product delivery hose is clear, then attach one end of the product delivery hose to the PIG's discharge pipe and the other end of the product delivery hose to the product intake pipe on a spreader truck.

4.2 Starting the Generator and Blower

4.2.1 For units equipped with electric blowers, plug the power cord on the power pack into a portable 3-phase generator.

The generator capacity must be known to have sufficient power for the electric blower.

4.2.2 Start the generator.

4.2.3 Start the blower by pressing the start button on the blower power pack.

4.3 Aerating the Product

4.3.1 Close the pressure control valve.

4.3.2 Open aeration valve.

4.3.3 Allow the tank to start pressurizing (Figure 5). Do not allow pressure to go above 15 psi.

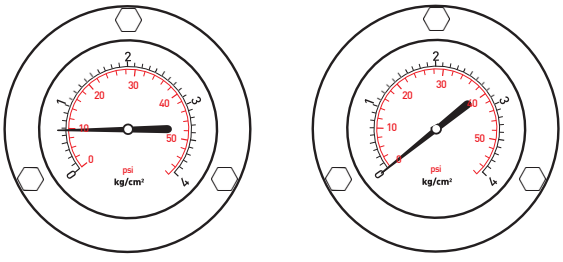

FIGURE 5. PRESSURE GAUGE POSITIONS WHILE AERATING THE PRODUCT

4.4 Unloading Material from the PIG

4.4.1 When tank pressure approaches 9 - 10 psi, slowly open the pressure control valve until it is at **half** position.

4.4.2 **Gradually, but continuously**, open the first hopper valve.

Warning! Opening too fast may result in plugging the line.

SECTION 4 CONT.

4.4.3 Adjust the pressure control valve and hopper valve to maintain an equal pressure of approximately 10 psi.

4.4.3.1 Partially closing the pressure control valve will increase tank pressure.

4.4.3.2 Partially opening the pressure control valve will decrease tank pressure.

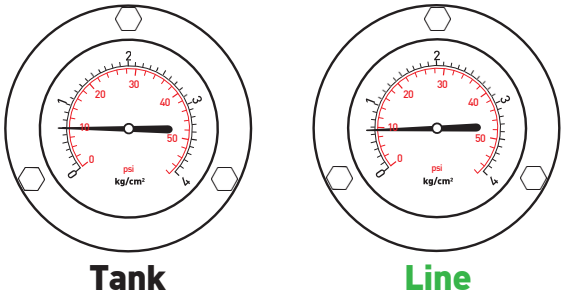

FIGURE 6. PRESSURE GAUGE POSITIONS WHILE UNLOADING THE PIG

The line gauge will normally read slightly less than the tank gauge (Figure 6).

With some materials, tank pressure cannot be maintained. If this occurs, the PIG will unload at a lower pressure.

Warning! Be aware of the volume of material that has been transferred into the spreader truck and when it is nearing to capacity. Failure to do so may result in overfilling the spreader truck.

If the spreader truck is equipped with a functional high alarm or weigh cell, it can alert the operator that the spreader truck is at, or near, capacity. Once unloading is complete, proceed to Section 4.5, Stopping or Pausing Material Unloading.

4.5 Stopping or Pausing Material Unloading

4.5.1 Once the spreader truck has been filled, slowly close the hopper valve to stop the flow of material.

4.5.2 Keep the pressure control valve open until all remaining material has cleared the product delivery hose connected to the spreader truck.

4.5.3 Once the product hose is clear, close pressure control valve.

4.5.4 Turn off blower.

4.5.5 Depressurize the PIG by opening the vent pipe valve.

4.5.6 Disconnect product delivery hose from spreader truck.

Warning! Disconnecting any hose under pressure may result in injury or death.

4.5.7 If loading another spreader truck, repeat steps in Section 4.

SECTION 5: TRANSITIONING FROM AN EMPTY HOPPER TO A HOPPER WITH MATERIAL

When a hopper is empty, the line gauge, followed closely by the tank gauge, will begin to drop (see Figure 7). When the tank pressure, normally about 10 psi, drops to about 7 - 8 psi:

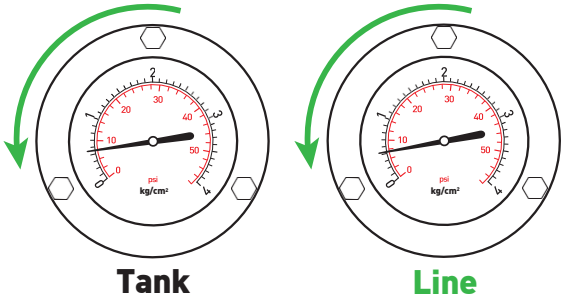

FIGURE 7. PRESSURE GAUGE POSITIONS WHILE UNLOADING THE PIG

5.1 Slowly close the hopper valve on the empty hopper.

5.2 Slowly open the hopper valve on an adjacent (full) hopper.

Note: The best unloading rates are obtained by keeping the pressure drop to a minimum during hopper transfer.

5.3 Repeat steps in Section 4 for each of the remaining hoppers while maintaining the established tank unloading pressures, usually about 10 psi.

SECTION 6: PIG CLEANOUT

6.1 When as much of the material as possible has been unloaded from the PIG, repeat the steps in Section 4 and 5, **except** gradually reduce the tank pressure while moving from hopper to hopper.

6.2 Continue until tank pressure cannot be maintained, indicating all hoppers are empty.

Aerator vibrating will assist in cleanout.

SECTION 7: CLEARING A PLUGGED PRODUCT LINE

A plugged product line is indicated by line pressure steadily rising with the tank pressure, signaling that no material is passing through the product hose.

Warning! Do not shut down the blower until the line is cleared or risk getting material into the blower.

If a plug is believed to have occurred, perform the following steps:

7.1 Fully open the pressure control valve.

7.2 Close the hopper, aeration, and top air valves (if equipped).

7.3 Slightly open the vent pipe valve.

7.4 If this does not clear the product delivery hose, open and close hopper valve repeatedly.

7.5 Once the product hose is cleared, continue to transfer material.

- 7.5.1 Close the vent pipe valve.
- 7.5.2 Open the aeration valve.
- 7.5.3 After the PIG has re-pressurized to normal unloading pressure (~10 psi), open the hopper valve, and follow the steps in Section 4.

SECTION 8: FAQs

WHERE SHOULD I PLACE A PIG?

ANSWER: A PIG should be placed on a hard, mostly level surface that allows for proper drainage. The area should be away from pedestrian traffic and easily accessible for delivery trucks. These specialty tank trailers require all support legs to be fully lowered and secured to bear the full weight when loaded.

WHAT KIND OF BLOWER DO I NEED?

ANSWER: Most of our PIGs come equipped with electric blowers, which are efficient and easy to operate if you have access to site power or a generator. Diesel blowers are available upon request. Our team can help you determine the right blower type based on your material and site conditions.

WHAT SIZE GENERATOR DO I NEED?

ANSWER: Electric blower packages require an onsite generator if site power isn't available. Generator size depends on the blower model, but our PIGs/blowers require a generator capable of producing 175 kW for initial startup. The blower is generally 50 HP and draws significantly more power during startup, though it can run on approximately 100 kW once operating.

Important: Lack of adequate power at startup will overheat the system and trip the breaker. Always confirm your generator meets the required specifications to ensure safe and efficient operation. Contact our team to verify the exact requirements for your setup.

CAN I RENT JUST THE DIESEL BLOWER?

ANSWER: Yes. Blowers are available as standalone rentals if you already own a PIG of need a backup unit.

CAN I MOVE THE PIG ONCE IT'S LOADED?

ANSWER: No. PIGs must be completely empty before relocation.

WHAT COMES WITH A PIG RENTAL AND WHAT DO I NEED TO SUPPLY?

ANSWER: Every Mintek PIG rental includes the trailer unit, a blower (either electric or diesel, depending on availability and site needs), and a built-in pressure system with safety valves, gauges, and dust filters. The unit arrives ready for onsite dry bulk storage and material transfer.

You will need to supply:

- Flexible hoses for connecting delivery trucks to the intake ports and for transferring material to your spreader truck or silo.
- Power source for electric blowers - either site power or a generator. If you're using a diesel blower, fuel and basic operation support may be required.
- Wood pads or stabilizers if placing the unit on soft or uneven ground.

If you're unsure which blower type is best for your site, our team can help you choose the right setup and walk you through the logistics.

SECTION 8 CONT.

WHAT HAPPENS IF THERE'S AN ISSUE WITH THE PIG OR BLOWER?

ANSWER: If you run into any issues during the rental period, we'll make sure it's handled quickly. Every rental includes a full maintenance program, and our extensive service network allows for fast turnaround and timely repairs to keep your project moving. While normal wear and tear is covered, damage from misuse or site conditions may result in additional charges. If something comes up, just call us at 937-431-0218 or email sales@mintekresources.com and we'll take care of it.

SHOULD I RENT OR BUY A STORAGE PIG?

ANSWER: Renting a PIG is a practical solution for short-term or seasonal projects, especially when you want to avoid the upfront investment and long-term maintenance responsibilities of ownership. Every rental includes a full maintenance program, so you can focus on your project without worrying about equipment upkeep. With flexible terms and high-capacity storage, renting gives you the reliability and scalability you need without tying up capital or internal resources.

WHAT'S THE DIFFERENCE BETWEEN A SILO AND A PIG?

ANSWER: A silo is a stationary structure typically used for long-term storage of dry bulk materials. It offers larger capacity and is ideal for permanent installations at facilities or plants. In contrast, a PIG is a mobile trailer unit designed for temporary or remote job sites. It holds approximately 100–120 tons of material and can be set up in a matter of hours, making it perfect for projects that require flexibility and quick deployment.