

BLAST ROOM

TITAN ABRASIVE SYSTEMS, INC

549 VALLEY ROAD *P.O. BOX 39* PITMAN, PA 17964

PHONE *570-648-4774* FAX*570-648-8371

[HTTP://WWW.TITANABRASIVE.COM](http://www.titanabrasive.com)

1.0- Installation:

1.1- Dust Collector:

Dust collector should be installed prior to room installation. Place dust collector on level surface. Collector may be installed outdoors providing at minimum, an overhang or roof is provided over unit to afford protection. Collector must be within 15 ft. of blast room. Position collector to easily access doors and filter pulse timer. Install 1" N.P.T. line to filter pulse manifold. 100 airline maximum P.S.I. cartridges must be provided with clean, dry air at all times. Connect 10" flexible duct hose to 10" inlet.

1.2 Motor and Fan:

1.2A-Direct Mount:

Motor and fan assembly up to 10 H.P. may be mounted directly to inlet on top of collector. Flange and hardware provided. Position fan outlet as desired. Connect electrical as required, provide motor starter and fused disconnect.

1.2B-Remote Fan Mount:

Large fans (over 10 H.P.) must be ground mounted and securely attached to concrete or steel foundation. Flexible hose or metal duct work is required for connection from dust collector outlet to fan.

1.2C-Filter Pulse Timer:

Requires 115 vac 1 phase. Timer is factory set - optional settings are discussed in operation and maintenance.

2.1-Blast Room:

2.2A-Sweep In Floor:

A steel floor pit is provided to install underground and eliminate concrete or block foundation walls and floor. To find pit location, first locate desired position of blast room and mark accordingly. Viewing the room from the front, the recovery pit will be in the left corner. Measure 30" from left corner of room toward left side. (See sketch) Room will install partially over floor pit (14") to allow for sweep in recovery. Pit dimension excavation is 45 ½" x 39 ½" x 30" D. Install floor pit, floor hopper and lower elevator section. (Note marks in pit elevator location.)

2.3-Room Floor:

Steel floor (1/4" thick minimum) should be installed if required, prior to wall erection, tack weld floor sections together. Fabricate openings in steel floor and allow sweep in hopper to protrude through floor for screen removal (Floor may be welded to trough.)

2.4-Room Walls:

Locate and assemble back wall of blast room. Secure all hardware. Lay flat on floor with interior side up. Install first roof panel and first (2) side panels to back wall. Secure all hardware. Stand completed assembly upright and position over blast room steel floor. Continue to assemble roof and side panels, spot check with level prior to securing hardware for accuracy.

Install front panel with door hinges and secure hardware.

2.5-Securing Room To Floor:

Angle supports are provided to attach room to floor. Angle may be tack welded to floor for permanent installation. If concrete floor is utilized, or room may be moved or dismantled attach angle to floor using tapcon screws or cement anchors.

2.6-Sealing Room Joints:

A small bead of clear silicone sealant should be applied to all joint surfaces inside the completed room.

2.7-Door Installation:

Stand front doors and position at hinges provided. Install doors on hinges, check for proper operation. A hole will have to be provided for the door hinge to latch through the room floor. Close doors, mark hole by closing door latch and drill hole approximately 1" into floor.

2.8-Recovery System Installation:

Locate above ground hopper, screen, and magnetic separator. Position hopper at desired location.

Locate storage hopper and mount blast machine with hardware provided. If large capacity stage hopper is provided, bolt legs to hopper (if removed) and stand hopper in desired location (left or right side of room or back corners) attach reclaimers and screen to hopper, and booster fan and to 10" connection on dust collector. Provide electrical conduit from motor to control panel. Connect to on/off switch.

2.9-Blast Machine Installation:

Position blast machine under hopper. Attach flex hose to blast machine cover. Attach electrical solenoid to blast room safety switch. Provide electrical conduit from solenoid tee to control hoses from control panel marked "Blast Machine". Attach connecting hoses from control panel to corresponding coded connections on blast machine.

2.9A-Control Panel:

Mount control panel at convenient location (such as blast room wall near man door). Provide electrical connection from power source.

3.0-Final Connections:

Install 10" x 4" tee near rotary drum and separator and connect to 4" outlet w/ slide gate on separator. Connect 10" hose. Install 10" tee above blast room and connect 10" hoses. (Note: hose may be suspended with steel strap or rubber strap for security.)

3.1-Install Lighting and Covers:

Unpack safety glass and install over lights in ceiling panels. Install fluorescent lights and secure with brackets provided. Electrical connections should be made at this time. (115 vac) to control panel.

4.1-Blast Machine and Accessories:

Refer to operating and maintenance instructions for ultra blast machines.

Preparation Prior To Operation:

All functions of the system should be tested independently.

1.) Dust Collector:

Check rotation of motor/fan.

Inlet air pressure to filter pulse should not exceed 100 P.S.I.

Check operation of pulse timer.

2.) Recovery System:

Inspect elevator and rotary drum separator for proper rotation. On vacuum recovery systems check motor rotation.

Pressurize blast machine & inspect for leaks. Then depressurize.

Fill blast machine with abrasive through hopper door (6 cu. ft. capacity). On large capacity hopper systems fill through recovery trough. (Do Not Overfill)

3.) Blast Room:

Check for adequate ventilation from collector (i.e. doors should have resistance when opening) within room.

Check all lights are operating.

Check operation of safety interlocks.

Check operation of helmet.

Operator should outfit himself with all safety equipment including respirator and test operation of blast machine at this time.

All components should be in operation prior to testing.

Refer to ultra blast machine operation manual for adjustments, etc. to blast machine.

Initial Operation:

1.)Operator should blast with the system for 15-30 minutes cycling the remote control on/off frequently. (Blasting a small part is ideal for this test.)

2.)To reclaim media in blast room: sweep all material to floor trough or conveyor, depressurize blast machine.

Refer to ultra blast manual, abrasive cleaner manual and bucket elevator manual for maintenance and trouble shooting information.

3.)On vacuum systems, check dust collector for good material carry over. If evident, close slide

gate on reclaim blower to ½ open. Slide gate will have to be opened as media breaks down and cartridges “season”. (See below)

Helpful Hints:

- 1.) Do not over fill the blast system.
- 2.) Always check for proper ventilation in room - room should not be excessively dusty while blasting.
- 3.) Always operate recovery system when blasting, and especially when attempting to reclaim.
- 4.) Clean secondary screen on rotary separator daily. Clean screen on vacuum systems daily.
- 5.) Empty dust drum on collector daily.
- 6.) Check blast machine, hose, twin line and switch for leaks before operating.
- 7.) Maintain good housekeeping around unit, clean up excessive grit, dust, etc.
- 8.) Repair any leaks immediately.
- 9.) On vacuum systems, it is important to adjust slide gate on reclaim blower for precise media separation. With light weight media such as plastic slide gate will initially be 3/4 closed to reduce carry over. Open slide gate as material breaks down or media appears dusty. Check dust in collector daily, observe carry over (good media) and adjust accordingly. If little dust is found in collector, open slide gate.

ABRASIVE CLEANER

NOTICE

An umbrella must be installed over the blast machine pop-up opening for this application. If an umbrella is not installed, the weight of the abrasive will prevent the pop-up valve from closing.

2.1 Set-Up

2.1.1 The blast machine should be in its permanent position. Uncrate the cleaner in close proximity to the blast machine.

2.1.2 Position the abrasive cleaner so that when it is placed on the blast machine, the inlet chute will be toward the bucket elevator discharge, and the 6" diameter dust collector duct connection is facing toward the dust collector ducting.

2.2 Installation on blast machine with flange ring (see Figure 4). Proceed to section 2.3 for installation on machine without flange ring.

2.2.1 Install the 5/16" adhesive backed strip gasket to the blast machine flange ring (or two-pot stand flange). Punch out the gasket material to expose covered bolt holes.

2.2.2 Proceed to section 2.4.

2.3 Installation on machine without flange ring (see Figure 5).

2.3.1 Loosely attach the mounting clamps to the blast machine as shown in figure 5. The top of the clamps should be approximately 2" to 3" from the top of the machine. Do not tighten the bolts at this time, the abrasive cleaner connections must line up to their connecting components before securing the mounting clamps.

2.3.2 Place the rubber U-channel extrusion over the rim of the blast machine. To obtain a tight seal the ends of the extrusion must be square cut and tightly compressed. Use rubber adhesive to hold the extrusion in place during assembly.

2.4 Common Connections

2.4.1 Connect a cable or chain to the cleaner's lifting eyes and hoist the cleaner above the blast machine (or two-pot stand). The abrasive cleaner weighs approximately 600 lbs.

WARNING

Do not work under the cleaner while it is hanging from the lifting device. Severe injury or death could occur if the cleaner is released from the lift device before it is secured to the blast machine.

2.4.2 Lower the cleaner onto the blast machine. If the blast machine has a mounting flange, ensure that the bolt holes line up, as the cleaner is lowered straight down to its final position. If the pot attachment clamps is used, align it by guiding the mounting clamp eye bolts into the holes on the cleaner's flange.

2.4.3 Check that the blast machine and cleaner are oriented correctly.

2.4.4 Check the angle between the elevator discharge and abrasive cleaner inlet. The discharge hose must have at least a 45-degree angle to ensure abrasive flow.

2.4.5 Using the fasteners provided, secure the cleaner to the blast machine flange, or mounting clamp as shown in figures 4 and 5. Ensure that all fasteners are tight.

2.4.6 Anchor the blast machine (or two-pot stand if used) to the floor.

2.4.7 After the blast machine is firmly anchored, remove the lifting chains/cables from the abrasive cleaner.

2.4.8 Connect a 4" discharge hose from the bucket elevator to the abrasive cleaner inlet. If

required put a stiffener on the hose to prevent it from sagging under the load of abrasive.

2.4.9 Connect a 6" diameter duct from the duct connection on the cleaner to the dust collector or dust collector ducting. The abrasive cleaner requires 600 cfm of air at 4" static pressure. A straight line duct to the dust collector is ideal. Avoid 90-degree bends where possible.

2.4.10 Attach the 5" x 5' flex hose between the debris chute (upper chute) and the other leg of the Y pipe.

2.4.11 Connect the 5" x 4' flex hose between the fines chute (lower chute) and the other leg of the Y pipe.

2.4.12 Position the 30-gallon debris disposal drum (or optional bag) in its permanent location.

2.4.13 Measure the distance between the bottom leg of the Y pipe and 30- gallon drum lid, and cut the 5" x 36" flex hose to connect between the two parts.

2.4.14 Install and tighten all flex hose clamps.

2.4.15 Check that the drum lid is secure on the drum.

NOTICE

During operation, the abrasive cleaner cover must be secure, and flex hoses must be tight and in a sealed container. The cleaner operates on negative pressure; any leaks will decrease the cleaner's efficiency.

2.4.11 Connect wiring to the motor. Motor is 1/4 HP, 230/460 V. 3 PH, 60 HZ, unless specified otherwise by the user.

All wiring and motor controls are provided by the purchaser. When used in conjunction with a recovery system and dust collector, component should be interlocked so the dust collector energizes first, abrasive cleaner second and recovery system third.

WARNING

Shortening electrical components could result in serious electrical shocks, or damage equipment. All electrical work must be performed by a qualified electrician, and comply with applicable codes.

2.4.12 Check gear reducer oil level.

2.4.13 Jog the motor, and check the rotation of the screened drum, by comparing it to the rotation decal. NOTE: If there is any doubt if the drum is rotating correctly, remove the inlet hose and drop a bolt into the inlet chute. If the drum is rotating correctly, the bolt will be within a few seconds. If the drum is not rotating correctly the bolt will bounce around in the drum, and not be discharged.

3.0 OPERATION

3.1 Abrasive Loading

3.1.1 Abrasive loading should be done in accordance with the instructions provided with the recovery system.

3.1.2 When initially loading the system, calculate the storage capacity of each component. The abrasive cleaner holds approximately 10 cubic feet (cu. Ft.) Of abrasive, or approximately 2500 lbs. of metallic abrasive. Clemco 6-cubic- foot blast machines hold roughly 1500 lbs. of metallic abrasive.

3.1.3 How much abrasive it takes to fill the system depends on the recovery equipment. A full recovery system (one that recovers abrasive as it is used) should not be filled with more than a total of 10 cu. ft. Ten cu. ft. with a Clemco 6-cubic-foot blast machine, will fill the abrasive cleaner to about 12 inches above the bottom. That provides 6 cu. ft. in the machine and 4 cu. ft. in the cleaner.

NOTICE

During blasting the pop-up valve (blast machine filling port) is sealed, so abrasive will not enter the blast machine. As abrasive is recovered, the level in the abrasive cleaner will be nearly filled to the full capacity of 10 cubic feet.

NEVER add new abrasive unless all recoverable abrasive has been retrieved into the blast machine and abrasive cleaner. Doing so will overflow the cleaner.

3.1.4 A partial recovery system, such as a 3 x 3 Hopper System, may be filled with 16 cubic feet of abrasive. This provides 6 cu. ft. for the blast machine, and 10 cu. ft. for the abrasive cleaner. When the cleaner is filled with 10 cu. ft. the level will be approximately 30" above the bottom.

3.1.5 Two-pot stands hold an additional 3.5 cu. ft., making the total capacity of the stand and abrasive cleaner 13.5 cu. ft. Since each blast machine holds 6 cu. ft., two machines have the capacity of 12 cu. ft. This means the abrasive cleaner with the two-pot stand and the two machines are at full capacity when abrasive reaches the 4" fill hose on the blast machine cover plates.

3.2 Damper Setting

3.2.1 Initially the damper should be fully open. Full open is when the handle is in line with the outlet as shown in Figure 1.

3.2.2 After the abrasive cleaner has been operational for one hour, check the disposal container for abrasive. If a large amount of abrasive (small amounts are normal) appears in the container, close the damper gate by one notch. Check this adjustment periodically until only approximately ½ lb. appears after 4 to 8 hours of operation.

4.0 MAINTENANCE

4.1 Gear Reducer

4.1.1 Unless stated otherwise in the instructions supplied with the gear reducer, the lubricant should be changed after the first 100 hours of operation. Thereafter lubricant should be changed every six months.

4.1.2 Recommended Lubricant

4.1.2.1 Follow recommendations supplied with the gear reducer.

4.1.3 Changing Lubricant

4.1.3.1 Drain the oil and flush the gear case with an approved non-flammable, non-toxic solvent, and refill with an approved lubricant.

4.1.4 Inspect lubricant level monthly.

4.2 Bearing Lubrication

4.2.1 Lubricate the idler bearing (drum shaft bearing) with any good quality general purpose bearing grease every six months.

4.3 Disposal Container

4.3.1 Check the disposal container daily. Empty when required.

WARNING

Failure to wear approved respirators and eye protection when emptying the disposal container could result in serious eye irritation and lung disease or death. Toxicity and health risk vary with type of media, and dust generated by blasting. Identify all material that is being removed by blasting, and obtain a materials safety data sheet for the blast media.

5.0 REPLACEMENT PARTS

5.1 Abrasive Cleaner

Figure 6

Item Description

(-) Abrasive Cleaner, Complete, w/ 30 gal. drum, right hand	21354
(-) Abrasive Cleaner, Complete, w/ 30 gal. drum, left hand	21282
(-) Abrasive Cleaner, Complete, w/ disposal bag, right hand	21355
(-) Abrasive Cleaner, Complete, w/ disposal bag, left hand	21281
1. Drum screen, Standard w/ 3/16" holes	21290
Optional w/ 1/8" holes	21353
2. Shaft, Drum	06805
3. Bearing, 1" idler	06812

4.Gear Reducer, 60:1	06811
5.Motor, 1/4 hp 230/460 V, 3ph 60hz	02980
6.Hose, 5" light lined flex, specify length in feet	12467
7.Gasket Adhesive Backed, 5/16" x 1" strip specify length required in feet	00187
8.Gasket Adhesive Backed, 3/16" x 1" strip, 4' required	00186
9.Clamp, 6-1/2" hose	00750
10.Y Pipe, 5" pipe	21287
11.Latch spring w/ strike	11876
12.Valve, 5" butterfly	21289
13.Adapter, 5" pipe	21287
14.Lid Assembly, 30-gallon drum	21284
15.Drum, 30-gallon disposal	10306
16.Bag, 4 cu. ft. disposal	21083

5.2 Accessories

Figure 7

Item Description

(-) Attachment Kits, for 24" diameter machines, for machines with a flange	06855
for machines without a flange	10289
(-)two-pot stand	02594
(-)Cover assembly, for 24" blast machines, for machines with a flange	03104
for machines without a flange	02582
1.Hose, 4" duct 2 ft. req'd	00716
2.Clamp	02806
3.Filter, air inlet	00249
4.Clamp, air inlet filter	00251
5.Gasket, 7/16" x 1" strip specify length required	00190
6.Gasket, 5/16" x 5/8" strip 2 ft. req'd per filter	00188
7.Screw, 10 x 3/4 self tap	03912