

Pneumatic Abrasive Conveyor

**PNEUMATIC ABRASIVE CONVEYORS
MODELS 16-PAC, 24-PAC, 30-PAC AND 36-PAC
O.M. 04117**

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**NOTICE TO PURCHASERS AND USERS OF OUR
PRODUCTS AND THIS INFORMATIONAL MATERIAL**

The products described in this material, and the information relating to those products, is intended for knowledgeable, experienced users of abrasive blasting equipment.

No representation is intended or made as to the suitability of the products described herein for any particular purpose or application. No representations are intended or made as to the efficiency, production rate, or the useful life of the products described herein. Any estimate regarding production rates or production finishes are the responsibility of the user and must be derived solely from the user's experience and expertise, and must not be based on information in this material.

The products described in this material may be combined by the user in a variety of ways for purposes determined solely by the user. No representations are intended or made as to the suitability or engineering balance of the combination of products determined by the user in his selection, nor as to the compliance with regulations or standard practice of such combinations of components or products.

It is the responsibility of the knowledgeable, experienced users of the products mentioned in this material to familiarize themselves with the appropriate laws, regulations and safe practices that apply to these products, equipment that is connected to these products, and materials that may be used with these products.

It is the responsibility of the user to insure that proper training of operators has been performed and a safe work environment is provided.

Our company is proud to provide a variety of products to the abrasive blasting industry, and we have confidence that the professionals in our industry will utilize their knowledge and expertise in the safe efficient use of these products.

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⚠ WARNING
When exposed to dust from silica sand, wear a NIOSH-approved air-fed helmet. Failure to do so may lead to silicosis, a serious lung disease.

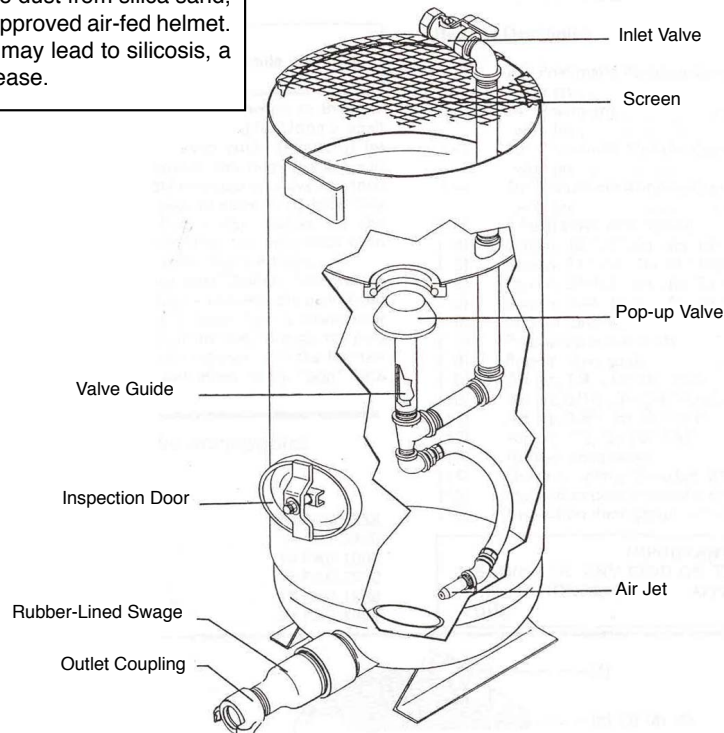


Figure 1

1.0 INTRODUCTION

1.1 General Description. Clemco is Pneumatic Abrasive Conveyor (PAC) moves abrasive by means of compressed air. Air entering the unit through the inlet valve (Figure 1) causes the pop-up valve to seat and the vessel pressurizes. An air jet at the bottom of the unit entrains abrasive and forces it through the rubber-lined swage into the abrasive hose, which carries it to its destination.

2.0 SET-UP AND OPERATION

2.1 Set-Up

1. Start the compressor and bring it up to operating temperature and pressure. The minimum operating pressure for the PAC units is 40 p.s.i., and the maximum is 125 p.s.i. The best pressure for any particular job must be determined by testing.
2. Load the abrasive to be moved into the top of the PAC unit. Never load the PAC unit with the screen off.

3. Connect the air line from the compressor to the inlet valve. For best performance, use a 1-1/4" I.D. or larger air line.

4. Connect the abrasive hose to the outlet coupling. Use 1-1/2" blast hose (available from Clemco in 50 ft. lengths). Do not use ordinary air hose. Make sure the coupling gaskets are in place and not worn. Safety wire these couplings together through the holes provided.

2.2 Operation

1. To start the unit, open the inlet valve. Abrasive conveying will begin immediately.
2. When you want to stop an empty unit or reload a unit, first make sure that all the abrasive is out of the conveying hose. (Abrasive left in the hose may flow back into the PAC unit and jam it.) Then close the inlet valve. The pop-up valve will open so that abrasive can flow into the unit.
3. Never leave abrasive in the unit overnight. Moisture may accumulate and cause the abrasive to jam. If jamming due to moisture is a recurring problem, install a moisture separator as near to the inlet valve as possible.

3.0 MAINTENANCE

⚠ WARNING

All maintenance should be performed while the unit is depressurized.

3.1 Replacing the Pop-Up Valve. To gain access to the pop-up valve, remove the inspection door assembly. Using a small pipe wrench, unscrew the pop-up valve guide (Figure 1) by turning it counter-clockwise. Remove the pop-up valve and guide from the machine, install the new pop-up valve and then screw the valve guide (with the pop-up valve in it) back into position inside the machine. Put a new gasket on the inspection door assembly before bolting the door back onto the machine. After tightening the bolts, test for leaks.

3.2 Replacing the Pop-Up Valve Seat Gasket. Remove the old gasket by wedging your forefingers between the gasket and the retainer and slowly working it loose. Use a screwdriver if necessary. Push the new gasket all the way through the port and then fit it into the groove in the retainer. For the last few inches, pull up on the gasket and allow it to "pop" into position.

4.0 REPLACEMENT PARTS AND ACCESSORIES

4.1 Accessories

Discharge hose, 1-1/2" I.D. x 50'	04358
PAC cycle timer ass'y, 115V a.c.	03480
1" Pressure regulator with gauge	01904
Recova-Lok II complete	02550
1" Recova inlet valve	01980
Twinline air hose, 5', coupled	01952

4.2 Replacement Parts

Item	Description	Stock No.
(-)	16" PAC w/ jet	01668
(-)	24" PAC w/ jet	01669
(-)	30" PAC w/ jet	04142
(-)	36" PAC w/jet	05281
(1)	1" ball valve with handle	02396
(2)	Screen, 15-1/2" dia., for 16" PAC	01666
(3)	Screen, 21" dia., for 24" PAC	01667
(4)	Screen, 31-1/2" dia., for 30" PAC	01713
(5)	Screen, 37-1/2" dia., for 36" PAC	01714
(6)	Pop-up valve seat, rubber	02325
(7)	Pop-up valve and shaft	02321
(8)	Pop-up valve guide	01845
(9)	Air jet, 1/4", for 16" PAC	01696
(10)	Air jet, 5/16", for 24" PAC	01697
(11)	Air jet, 3/8", for 30" PAC	01698
(12)	Air jet, 1/2", for 36" PAC	01699
(13)	Rubber-lined swage	01695
(14)	Quick coupling, threaded, 2"	00562
(15)	Inspection door assembly, 6" x 8"	02377
(16)	Inspection door gasket, 6"x 8"	02369

⚠ WARNING

WELDING OF ANY KIND ON THIS UNIT RENDERS THE NATIONAL BOARD APPROVAL NULL AND VOID.

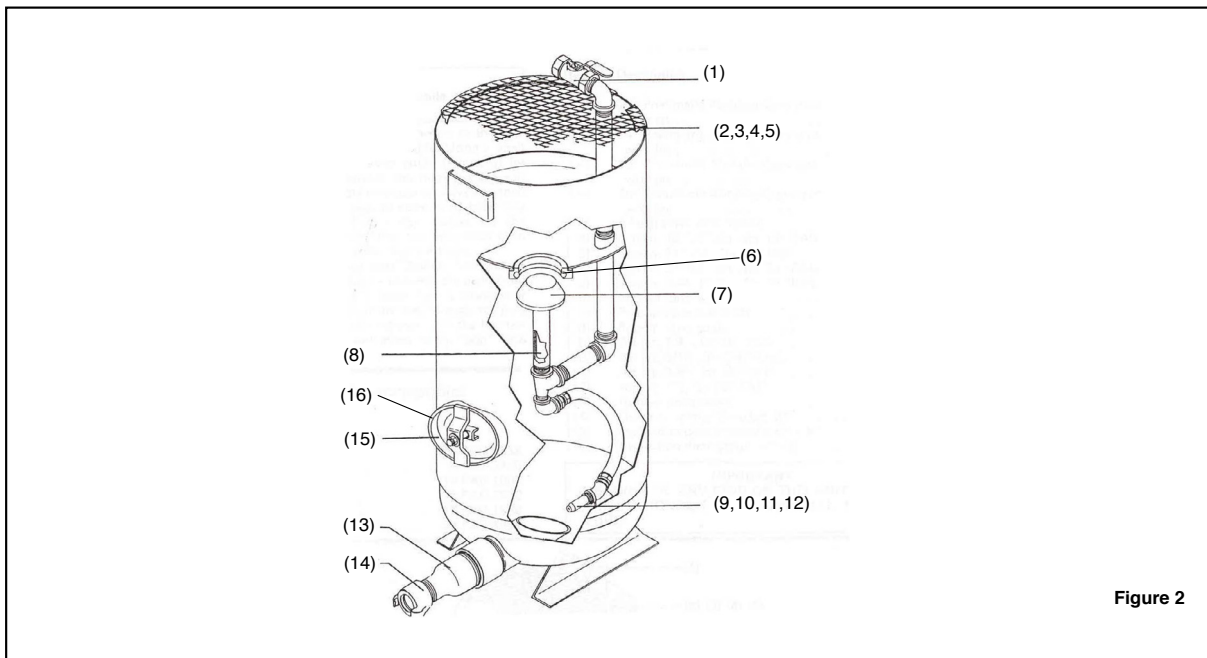


Figure 2

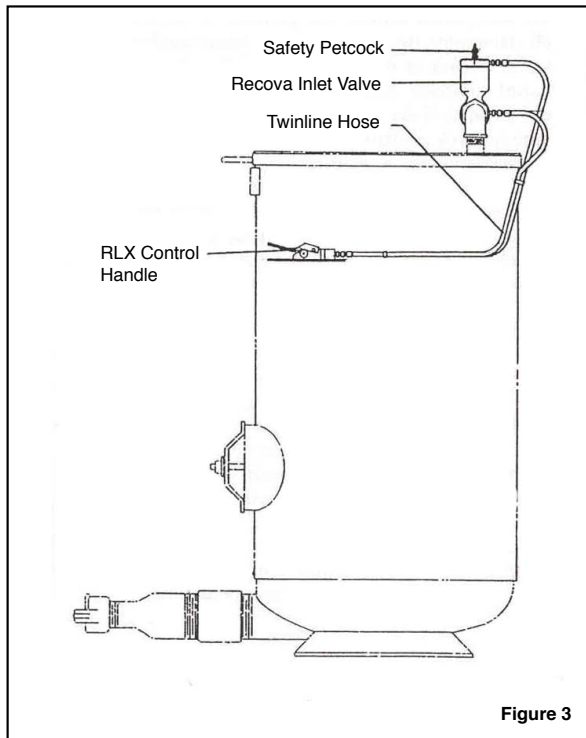


Figure 3

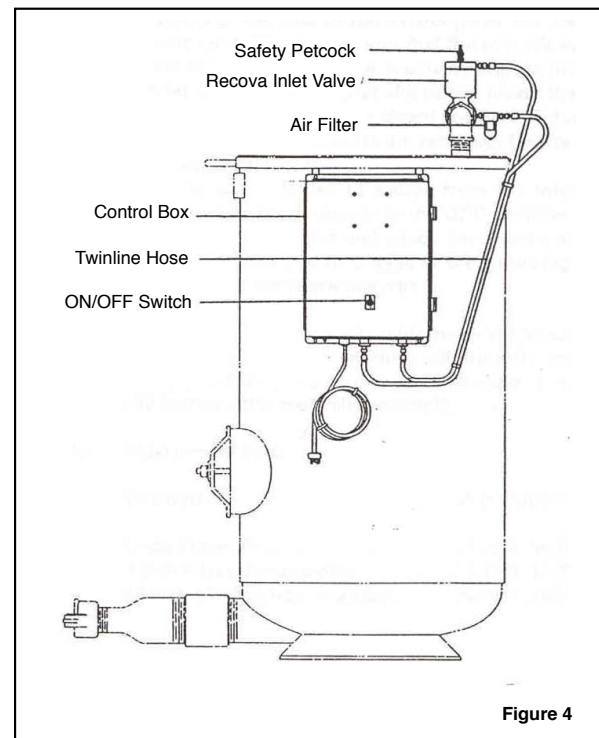


Figure 4

5.0 ACCESSORIES

5.1 Recova-Lok II (Figure 3). To install, unscrew the existing manual valve and replace it with the Recova inlet valve. Connect the Recova Lok II to the inlet valve by means of the twinline hose provided. Either leg of the hose can go to either fitting on the Recova-Lok II. The safety petcock on top of the inlet valve must be closed; otherwise the system won't work. To open the inlet valve, press in the safety button on the side of the Recova-Lok II and depress the handle. To close the inlet valve, release the handle.

5.2 Electric Cycle Timer (Figure 4)

a. Introduction. If the cycle timer was purchased for use with a pneumatic abrasive conveyor, the kit should contain: a control panel, a 1 inch inlet valve and an 18 inch length of twinline hose. The cycle time is designed for use with 120 volt a.c., 60 cycle current.

b. Installation. First remove the manual inlet valve at the top of the PAC unit and replace it with the inlet valve provided. Be sure that the arrow on the body of the inlet valve points in the direction of the inlet pipe towards the blast machine. Place the control panel on the rim of the PAC unit using the brackets provided. Attach the air filter to the inlet valve. Be sure the flow arrow points away from the inlet valve. Connect the inlet valve to the control panel using the twinline hose supplied. The line leading from the air filter is connected to the inlet fitting on the control panel; the other line is connected to the outlet fitting. (The two ports on the valve are marked IN and OUT.)

c. Operation. Connect the control panel to a 120 volt a.c., 60 cycle power source. This activates the cycle timer. After lifting the cover of the control panel, you will see the timer in the upper left-hand corner. On the timer face are three arrows: a red arrow (permanently fixed at "O"), a black or off pointer (which times the filling function of a PAC unit) and a blue arrow. The blue arrow controls the time that a PAC unit conveys abrasive. The length of each cycle depends on many variables and thus is best determined by experience. As one guideline, it is recommended that the cycles be of equal length. Either cycle can then be lengthened or shortened, depending upon specific operating conditions.

d. Troubleshooting.

1. If the cycle timer does not work: Insure that power is reaching the control panel. Test for voltage using a voltmeter or an ohmmeter. Be sure that the ON/OFF switch to the left of the control panel is in the ON position. Insure that the air hoses to the control panel are connected to the proper fittings. An improper connection is indicated by a continual leakage of air from the small copper exhaust tube at the base of the control panel. Check the cycle timer for proper functioning. Insure that the blue and black arrows do not point straight up and cover the red arrow. If the red arrow does not move when the ON/OFF switch is ON, the timer is defective and should be replaced. If the timer functions but the valves on the PAC unit do not activate, remove the air inlet fitting at the base of the control panel and check for air. If no air is escaping, the solenoid is defective and should be replaced.

2. If the cycle timer works but air leaks from the outlet valve during the ON cycle: If the piston in the inlet valve is broken, replace it. If the outlet valve "chatters", insufficient air is being delivered to the outlet valve, and air hoses should be inspected for a loose fitting.

3. If the cycle timer works but the inlet valve does not open: Check the tightness of the hose fittings at the base of the control panel and the inlet valve. Check to be sure that the petcock at the top of the inlet valve is closed. Inspect the inlet valve to insure that the piston inside the valve is not frozen in the closed position. If the piston is frozen, lubricate the valve (see Maintenance) or replace it.

4. If the air continues to escape from the inlet valve when the switch is in the OFF position: Open the inlet valve and check for a worn or damaged valve seat or a weak or broken spring, and replace the respective part.

e. Maintenance. Once a week, with the air off, place one to three drops of machine oil through the safety petcock at the top of the inlet valve. This will lubricate the inlet valve assembly.

f. Replacement Parts

Description	Stock No.
Cycle Timer, PAC	03480
1 inch inlet valve assembly	01980
18 inch twinline hose, coupled	02454