

Installation Instructions

The Big Shot fiber transport system must be installed before use. The system requires only PVC pipe, a few hangers, and a supply of compressed air. The Big Shot system has been installed and used in scores of applications, and represents the most efficient fiber-addition method known to minimize addition time and maximize safety.

These instructions outline the necessary steps to install the Big Shot fiber transport system. If technical assistance is necessary, limited assistance is available from your local FORTA[®] field representative, or by telephone consultation with FORTA Corporation Operations Department. For more in-depth assistance, on-site technical services are available through FORTA Corporation at a cost of the technician's travel, lodging, and time on site. Contact FORTA Corporation for details.



Important

Failure to follow the within instructions, and any other supplied instructions, may void any applicable warranty.

Before you start

The following items are included with the Big Shot system; locate and identify them before you start:

- One Big Shot unit
(36 in long x 11 in diameter; approximate weight 50 lb)
- One ½ in to ¾ in elbow line connection for standard air line
(may be pre-installed on the Big Shot unit)
- Curved PVC pipe sections
(135° total curvature; may be in a 1 or 2 piece configuration)

Additional parts are necessary for the installation and operation of the Big Shot system. These parts can vary depending on the height, distance, and desired location of the installation and are not included with the system to minimize costs and shipping. They may easily be found locally. Refer to the flow chart on the next page.

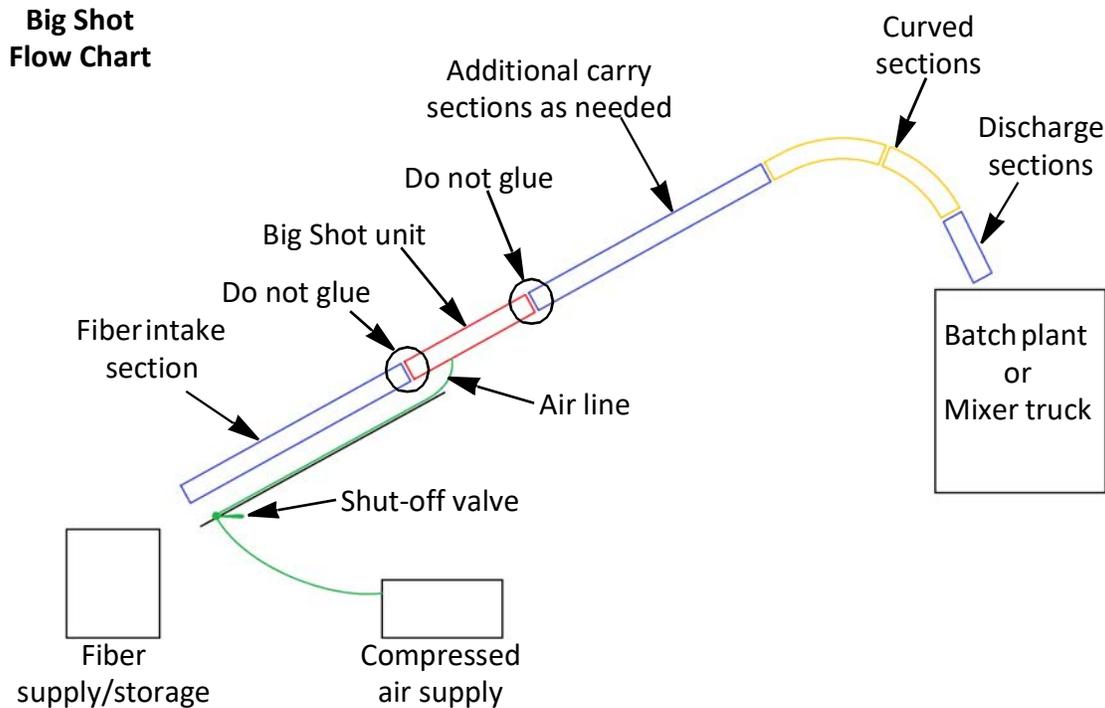
- One 5 to 10 ft long, 8 in diameter Schedule 40 PVC pipe
(to be installed as the fiber intake section prior to the Big Shot unit)
- Additional sections of 8 in diameter Schedule 40 PVC pipe as needed to arrive at batching entry point
(to be installed between the Big Shot unit and the 135° curved sections, and after the curved sections if needed)
- 8 in diameter radiator hose type clamp brackets or heavy-duty zip ties as needed to hang and support PVC pipe system to batch plant framing members
- One ¾ in diameter standard flexible air line from compressed air supply to the Big Shot unit
- One ¾ in in-line shut-off valve to be located near fiber addition point for on-off control of air supply
- One ½ in or ¾ in elbow line connection for standard air line (only necessary when two air lines are needed for instances where heavier fiber bags or longer distances are involved)

The following utilities are needed to operate the Big Shot:

- Compressed air supply, 90 psi at 25 CFM - this is a relatively low air requirement and is usually available at most batch plants
- If the optional Big Shot Counter will be used with the system, a 120 Vac power source

Layout

As shown in the flow chart below, the Big Shot setup is fairly simple and straight forward. Naturally, the location and exact layout of the Big Shot system depends on the desired fiber storage/start point and the discharge point at the batch entry. Once those points have been determined, the pipe system can be laid out accordingly, keeping the entire system in as straight a line as possible. The angle of repose may be anything from horizontal (0°) to vertical (90°); however, the typical and preferred angle range is 45° to 75°. In addition, the system layout must also take into account the availability and location of batch plant framing members for attachment and support of the system components.



Start point - intake section

It is typically desirable to have the starting or fiber entry point as close as possible to the area where the fibers are stored. In some cases, this may be near a storage building, or even an open, ground-level area where fiber cartons or pallets can be placed (and covered or protected from weather).

Once the start point has been determined, it is essential to start with a 5 to 10 foot length of 8 in diameter Schedule 40 PVC pipe. This intake section is necessary to create the initial vacuum required to move the fiber bags through the system. The upper end of this pipe (male end) is placed into the female entry end of the Big Shot unit. Secure the intake section of pipe to plant framing members using the clamp brackets or zip ties.



Important

The joint between the intake section and Big Shot should not be glued. This allows for easier disconnection in the event the Big Shot or the intake section needs to be changed or replaced.



Fiber addition point located near product storage area.



Initial pipe section should be 5 to 10 feet long to create vacuum.

Big Shot orientation

The Big Shot unit has a directional arrow on the outside to indicate the proper entry and exit ports. When installed, the directional arrow should point upwards to the eventual discharge point. The Big Shot should not be glued to its connecting piping. Instead each end of the unit should be secured to plant framing members using the clamp brackets or zip ties to give extra support and keep connections tight and secure.



Air supply

The Big Shot system requires a compressed air supply that can provide 25 CFM (cubic feet per minute) of air at 90 psi of line pressure. A 3/4 in minimum diameter flexible air line must be run from the air supply to the Big Shot. It is important to use “Air-Rated” line, fixtures, and connections throughout to improve the system’s efficiency and maintain a high level of safety. Allow for extra air line in order to install the shut-off valve near the fiber addition point.



Note

Use of 1” diameter line increases the system’s efficiency, although it is typically not necessary. Using a 1” air line would then require a 1” to 1/2” elbow, which is not included, to connect to the Big Shot.

One air supply is typically sufficient to operate the Big Shot over normal distances. However, if more strenuous circumstances exist, a second air line connection has been pre-installed on the Big Shot unit for connection to a second air supply.



Note

If it has been determined that a second air supply is desirable, it is important that the second line be run directly from the compressed air source. Running a single air line with a simple “Y”-type connection to each air intake elbow on the unit will not enhance the vacuum capacity of the system.

Shut-off valve

The ¾ in shut-off valve should be mounted/strapped near the inlet of the fiber intake section. Locate the valve in a place that is convenient to the operator who is loading the fiber. Secure the valve firmly to a rigid support to prevent future line damage. The air line then continues and is attached to the Big Shot, as noted in the previous “Air Supply” section.



Additional carry sections

Additional lengths of 8 in diameter Schedule 40 PVC pipe should be connected to the exit end of the Big Shot as needed to reach the fiber discharge point. These additional carry sections should be glued together with standard PVC joint glue to prevent separation.



Important

The joint between the Big Shot and first carry section should not be glued. This allows for easier disconnection in the event the Big Shot or the carry pipe needs to be changed or replaced.

Though these additional pipe sections should be kept as straight-line as possible, slight angles or curves will not dramatically affect the overall performance. Anchor the pipe sections to plant framing members using the clamp brackets or zip ties as needed (preferably near pipe joints for best support).



Curved sections

To arrive at the fiber discharge point, a curve at the top is typically necessary. To allow for smooth fiber flow and delivery, a gradual curve is required. Sharp 90° angles must be avoided. Due to the difficulty in extruding curved Schedule 40 PVC pipe, this curved section is supplied as part of the Big Shot® system. The total curvature supplied is approximately 135°, which will accommodate the vast majority of installation requirements. This curved section may be in one or two pieces, depending on availability. This curved section may be used as is, or may be cut and pieced together depending on the needs of your specific installation. Connect, glue and hang this section as needed.



Discharge point

At the end of the curved section, add one or more straight sections of 8 in diameter Schedule 40 PVC pipe as needed to arrive at the desired fiber discharge point. This discharge point might be at a porthole opening in a pre-cast batching system, at the top of an aggregate-feed conveyor in a central-batch system, or at the top hopper of a ready mix truck.

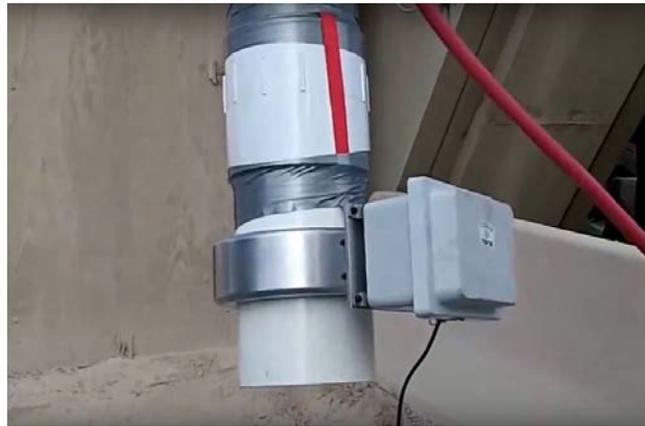
If the discharge point is onto an aggregate supply belt or near the head pulley of a material supply system, care should be taken to allow sufficient clearance for the fiber bags under hoods and/or safeguards.

Due to the velocity of the fiber bag at discharge, trials should be performed before gluing and anchoring the final section to make sure that fiber bag “bounce-off” is not an issue.



Installation of optional counter for Big Shot

Install the counter's collar onto the system's intake pipe (do not glue joint). Connect the counter to 110 Vac power supply.



Connect the receiver and printer a 110 Vac power supply. Press f2 on receiver to reset bag count before starting.



Contact FORTA Corporation

If it is necessary to contact FORTA Corporation, you can do so by the following:

Mail: FORTA Corporation
 100 Forta Drive
 Grove City, PA 16127-5221
 Phone: 1-800-245-0306 or 1-724-458-5221
 Fax: 1-724-458-833
 Web: www.fortacorp.com