

EUROVAC

EUROVAC I
INSTALLATION INSTRUCTION MANUAL

EUROVAC

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The Eurovac I is an industrial grade dust and fume extraction/vacuum system. It can be used for extracting welding fumes, or sanding dust, using hand sanders and mechanical driven sanders, or general cleaning with a wide variety of cleaning accessories available.

Properly installed and maintained, the Eurovac I Dust Extraction System will provide years of worry free operation.

RECEIVING INSTRUCTIONS:

Upon receiving your new Eurovac system, inspect all parts for damage. Any damage observed should be recorded and damage claims filed with carrier. Also note if any parts are missing or any back orders. Contact your Eurovac representative or our factory for assistance.

TOOLS REQUIRED:

1. Abrasive cut-off saw or reciprocating saw
2. Hacksaw
3. Hammer drill
4. 12" half round file
5. Adjustable crescent wrench
6. Assorted hand wrenches
7. Hammer
8. Tape measure
9. Magic marker
10. High temperature gun or propane torch
11. Wire strippers
12. Wire cutters

INSTALLATION - VACUUM PUMP LOCATION:

Ideally, pump & work station locations are determined prior to installation.

If possible, pumps should be positioned in a central location, keeping in mind the placement of the exhaust stack. If the vacuum system is pre-assembled with a sound proof cabinet, it is not necessary to mount the unit if the cabinet is placed against a wall. If there is no cabinet, ideally, the vacuum system should be located in a compressor room, thus reducing noise in the work area.

When securing system to a wall, do not place lag bolts below the halfway point of system. If possible, locate system so that only one 90° bend is required to mate vacuum system to main line.

TUBING INSTALLATION:

A drawing of your shop showing the layout of tubing has been included with these instructions. It should be followed as closely as possible, because the type and quantity of fittings included with your system match the layout.

Extra 45° and 90° bends have been included in order to clear unforeseen obstructions. If the vacuum tubing has not been laid out, or if it needs to be changed, a good rule of thumb is to have no more than three work stations running off one line. The diameter of the tubing should be changed at this point.

If you have any problems, contact the factory for assistance.

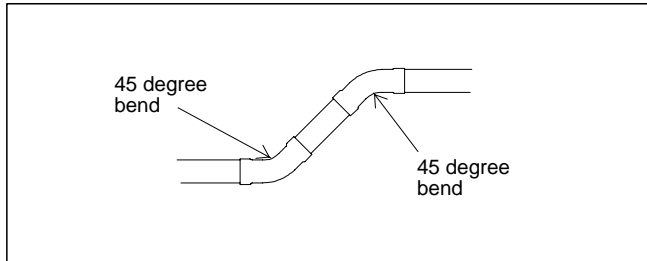


Figure 1

Before you begin the installation, determine how long the hangers should be in order to maintain the same elevation for all the tubing runs. If it is necessary to change elevations, use a combination of two 45° bends rather than two 90° bends. (Figure 1)

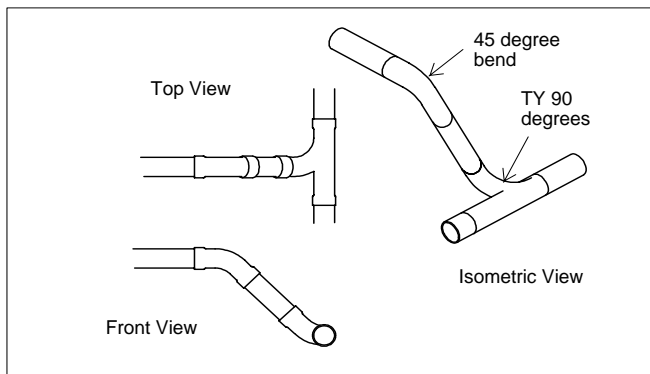


Figure 2

Elevation changes can also be made at a junction. This is accomplished by combining a 45° bend with a TY fitting that is positioned on a 45° angle up or down. (Figure 2).

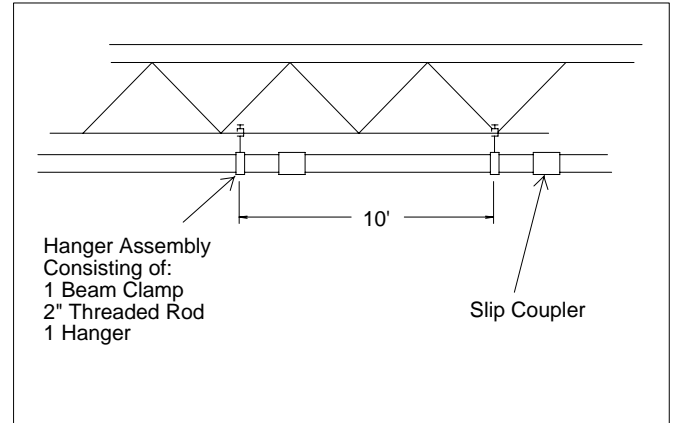


Figure 3

Begin installation at the vacuum system and work out from there. Main intake line should be supported independently of the vacuum system. Tubing should be supported every 8' - 12' with a hanger. (Figure 3). Two feet of threaded rod has been supplied for every 10' of tubing. Remove all burrs inside the tubing with a file. Remove outside burrs with a chop saw or file. Do not screw tubing together, since dirt will clog on screws.

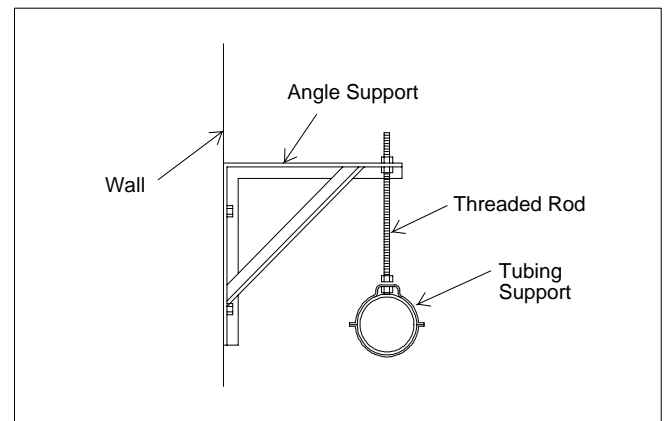


Figure 4

If possible, do not run main line along a wall as this will require more tubing and fittings than normal, thus reducing efficiency of vacuum system. To support the tubing when it is to be suspended from the wall instead of the ceiling, use the arrangement illustrated above (Figure 4). This arrangement is suitable for lines running off the main line.

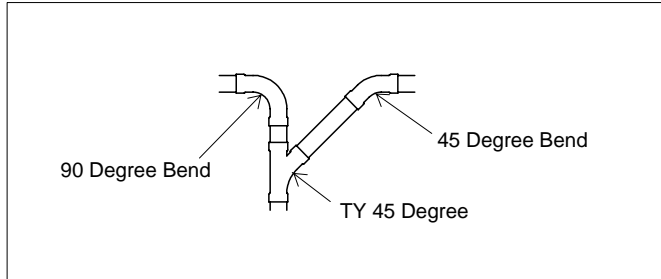


Figure 5 - 3-Way Fitting

Sometimes, a 3-way fitting* is required during installation. This is accomplished by joining a TY 45° fitting with a section of tubing and a 45° bend on one side and a 90° bend on the other side of the TY 45° fitting. (Figure 5).

* This fitting is available in one piece from stock.

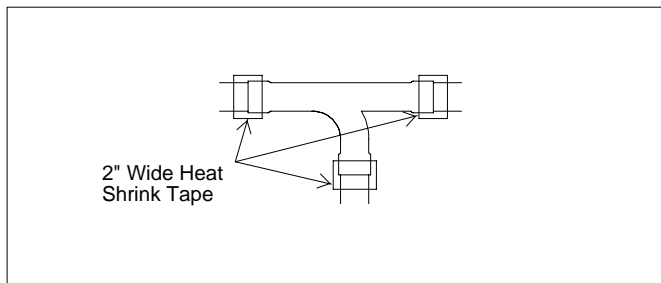


Figure 6 - 2" Heat Shrink

Heat Shrink tape has been supplied, which provides mechanical strength while sealing off any air leaks. Two different types of Heat Shrink have been provided. The 2" wide tape should be used when joining a fitting to the tubing. (Figure 6).

Fittings that are 4" diameter and larger use 4" wide Heat Shrink tape.

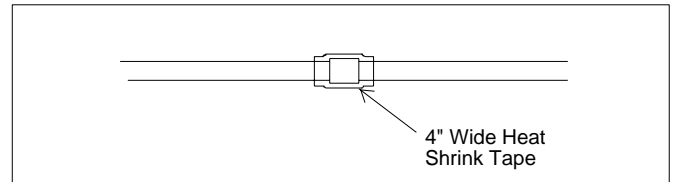


Figure 7 - 4" Wide Heat Shrink Tape

The 4" wide tape should be used in conjunction with an external slip coupler when joining two pieces of tubing. The tape will completely encircle the slip coupler leaving a one inch overlap on both sides. (Figure 7). Flame retardant adhesive tape has been provided to hold Heat Shrink tape in place during the heating process. Heat with a heat gun or a propane torch following the directions provided by the manufacturer.

Make sure that the tape heats sufficiently, allowing the tar to melt into the joint. You should see 1/8" of black tar on the side of the pipe next to the tape after heating. On couplings 5" diameter and larger, two pieces of 4" wide Heat Shrink tape, edge to edge, will be required.

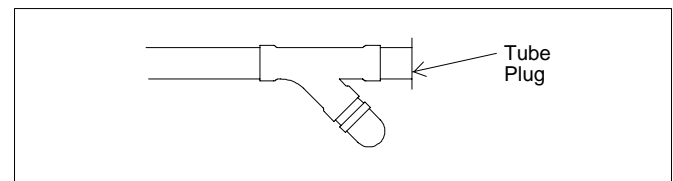


Figure 8 - Tube Plugs

Tube plugs or clean-outs have been provided with the system. They should be placed at the end of the Y-branch for future access. Seal off with 2" Heat Shrink tape (Figure 8).

The vacuum system should be exhausted outdoors since a lot of heat and noise is generated by the vacuum pumps. Preferably, the vacuum system should be exhausted straight up through the roof. They can also be exhausted out through a side wall. Twenty feet of 4" exhaust duct, two adjustable elbows and one coupler has been supplied with your system.

WORK STATIONS/UTILITY INLETS:

Work station placement is usually determined before the vacuum system leaves the factory. If not, work stations should be placed so that the technician has easy access to all sections of a given work area with the vacuum hose provided. Double work stations should be placed between every other bay or work area, single work stations between every bay or every 11' - 13'.

Placement along the line between two bays should be close to one end or other, not the midway point as this cuts down the usefulness of the vacuum hose. (See shop drawing).

For every work station that is hung in the open, 10' of 2" flexible hose, 2 hose clamps and a 2" "street" 90° has been provided. A street elbow has only one expanded end. (Figure 9). The "street" end or unexpanded end of the elbow is used to join the flex to the elbow. Use some adhesive at this point. "Street" elbows are available only in 2" diameter.

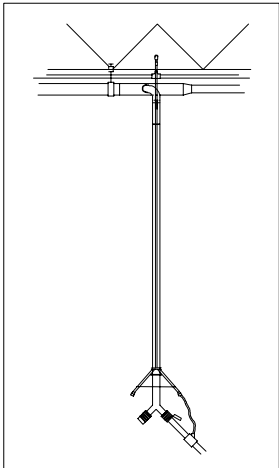


Figure 9 - Work Station Assembly

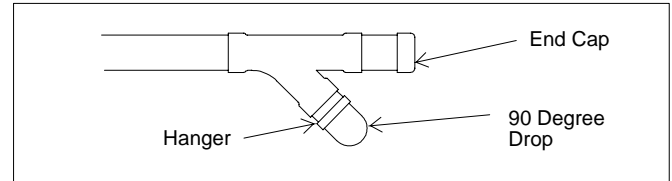


Figure 10 - Work Station off the Main Line

When work stations are coming directly off main line, a TY 45° should be used in conjunction with a 90° elbow. A hanger should be located on each 90° drop for support. (Figure 10).

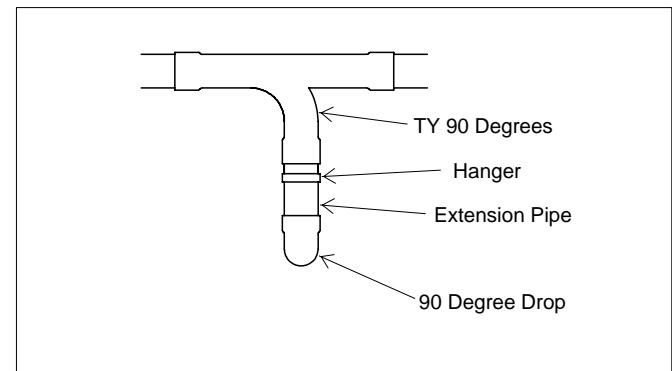


Figure 11 - Work Station at a distance from Main Line

When the work stations are located some distance from main line, a TY 90° in conjunction with a piece of extension pipe and a 90° elbow should be used to achieve desired work station location. (Figure 11).

Work stations should be hung 6'-2" from lowest point of work station to the floor in order to clear most cars and vans, while maintaining a good access height. Keep in mind that the hoses contract while under vacuum raising the work station approximately two inches.

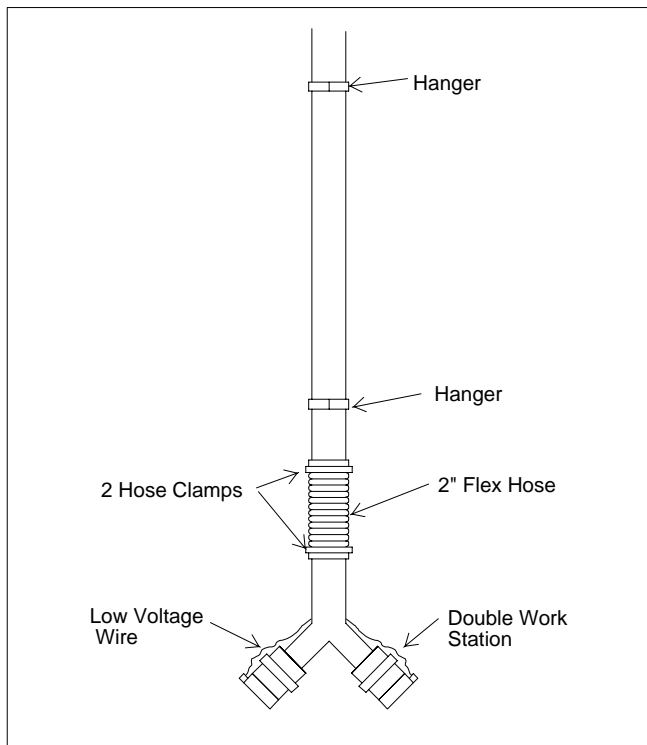


Figure 12 - Wall Mounted Double Work Station

For every wall mounted work station, 12' of 2" tubing, one 2" Coupling, 2 hangers, and a standard elbow has been provided. Use the small length of flex between work station and tube for easier operator access. (Figure 12).

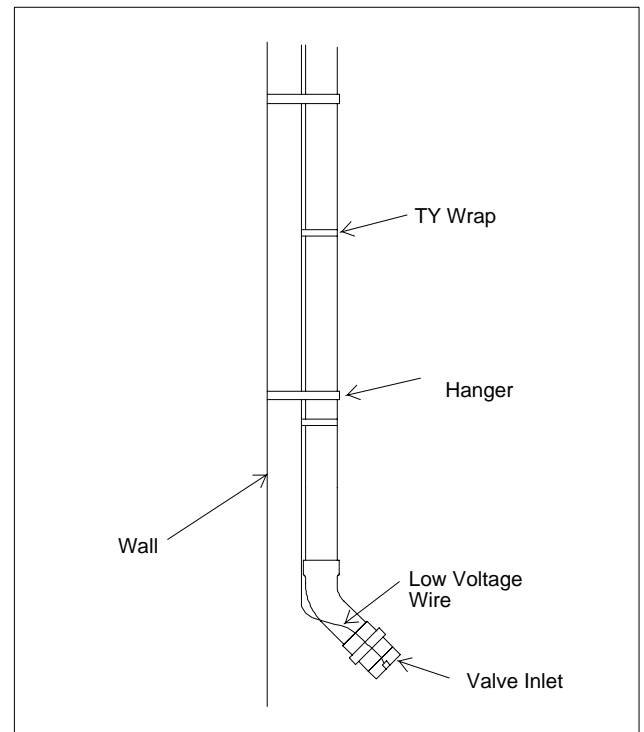


Figure 13 - Wall Mounted Utility Inlets

Utility inlets are fitted directly into a 45° fitting when they are wall mounted. (Figure 13).

ELECTRICAL REQUIREMENTS:

Eurovac supplies a control panel with each system. A properly sized fused disconnect must be supplied by the customer.

Generally, systems up to 10 horsepower are controlled by a microswitch located at each inlet, which must be connected to the control panel with the control wire supplied with the system as outlined below. These systems use 24 VAC control voltage.

Systems that are 15 horsepower or larger are controlled by a start/stop button located on the face of the control panel.

SYSTEM CONTROL WIRING - 24 VAC:

Remote control systems require a low voltage wire to be run in conjunction with tubing. This can be done at the same time as the tubing installation, or as a last step, after all the tubing has been installed. Be sure to allow the steel to cool before fastening the wire to the tubing. Each work station should be wired in a parallel circuit so that any one work station will activate the vacuum system.

Begin wiring at the vacuum system, leaving sufficient slack for hook-up to the control panel. Attach wire to tubing, with cable ties provided (11" cable ties for 2" and 2¹/₂" diameter tubing, 14" cable ties for 3" or 4" diameter tubing). Continue wiring until the first TY junction is reached. Cut the wire at this point, leaving 6" of slack for easier hook-up and repairs. Continue wire down the line and also run the wire down to work stations. Connect three white wires together, and three black wires together using wire nuts provided. Electrical tape should be used to maintain a solid connection. Do not run two wires down to drop on double work stations. The two inlets can be wired together at the work station, with a single wire coming down the drop. Be sure to leave sufficient slack at each connection. Fold excess wire in a loop and attach to flex hose/tube with cable ties. Repeat procedure until all wiring is complete. It is important that all connections are solid with no exposed copper.

For pumps with integral pilot operated thermal contact connect end of wire to small terminals marked with the number "2" (black wire) and 3 (white wire) in the control panel. For all others connect to the number "1" (black wire) and the number "3" (white wire).

HIGH VOLTAGE WIRING

Electrical requirements will vary according to size of system. Pumps are available in 220v, single phase or 200-230v/460v and 575v, three phase. Circuit should be sized to accommodate full load of pump and must conform to all local electrical codes.

e.g. 10 H.P., 240v pump has full load rating of 30 amps, requiring a 40 Amp circuit. All necessary electrical data can be found inside the control panel or on the motor nameplate. Connect high voltage to terminals marked L1, L2, and L3. Run the pump to determine rotation (see arrow on pump). If necessary, reverse any two leads to get proper rotation. (Three phase only).

CONNECTING THE PULSE JET SYSTEM:

Installation of the Pulse Jet Unit requires connection of the pilot operated diaphragm valve to the control panel and the air pressure regulator to a suitable air supply. Smaller systems such as the typical 14" separator (shown on the next page) are supplied with 24 VAC controls. The larger units like the 19" separator shown on the next page are supplied with 120 VAC controls.

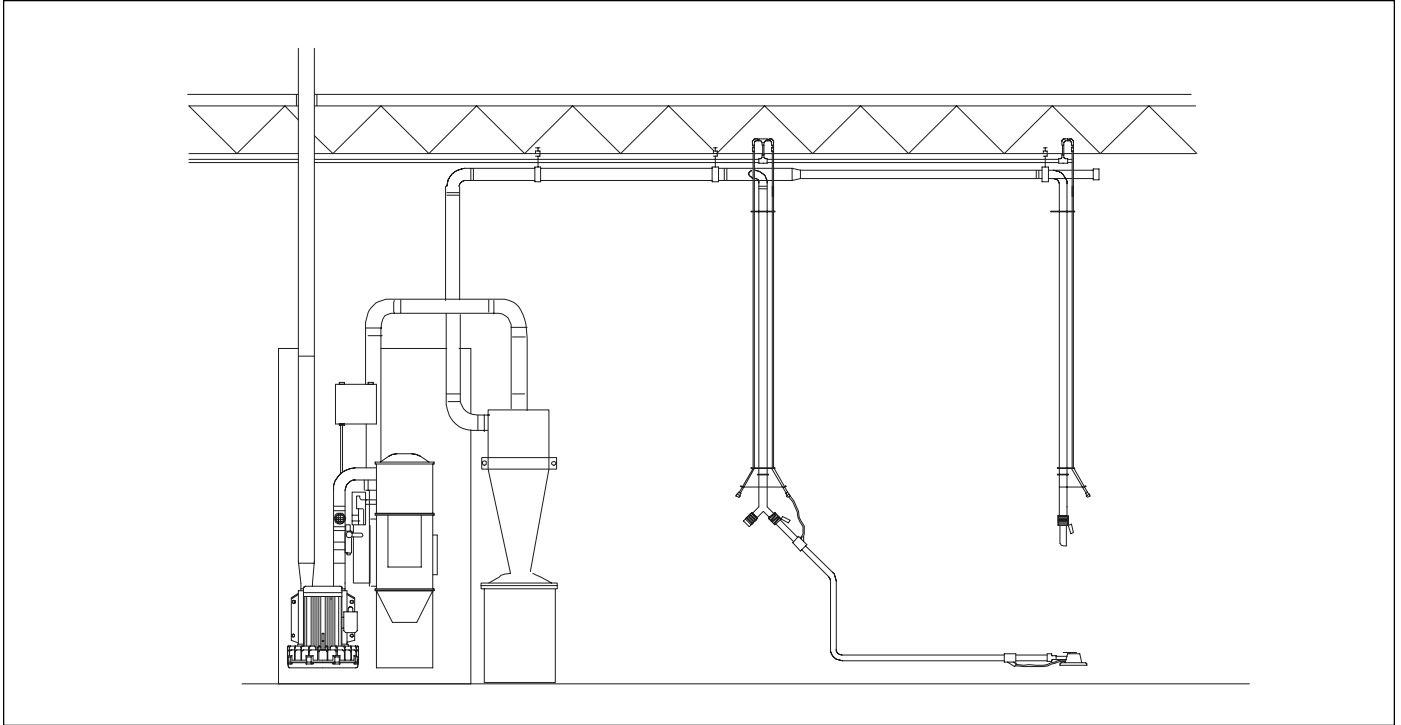
PULSE JET CONTROL WIRING

For systems with 24 VAC control the same wire used for system wiring is acceptable. Systems with 120 VAC control must be wired to conform to all local electrical codes.

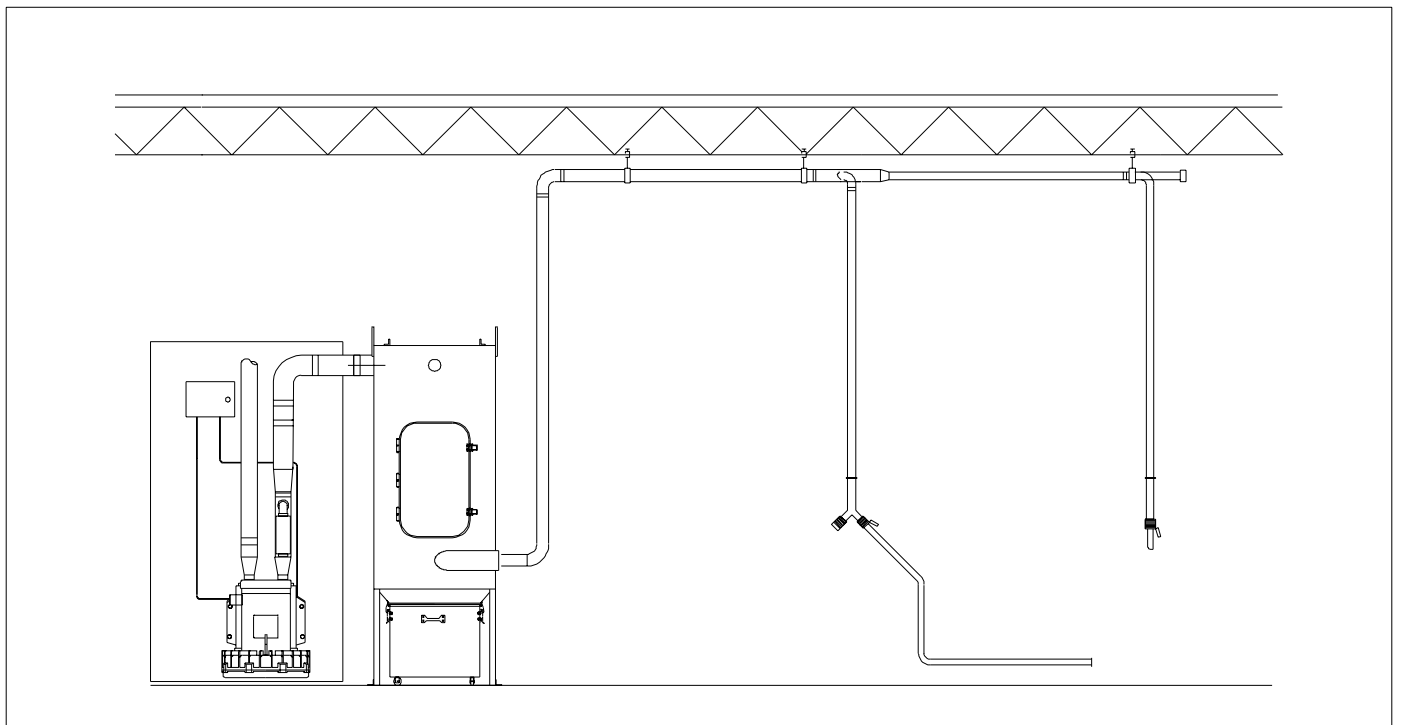
Run control wire from the pilot operated solenoid valve on the separator to the control panel and connect to the terminal blocks provided (see electrical schematic inside panel).

AIR SUPPLY

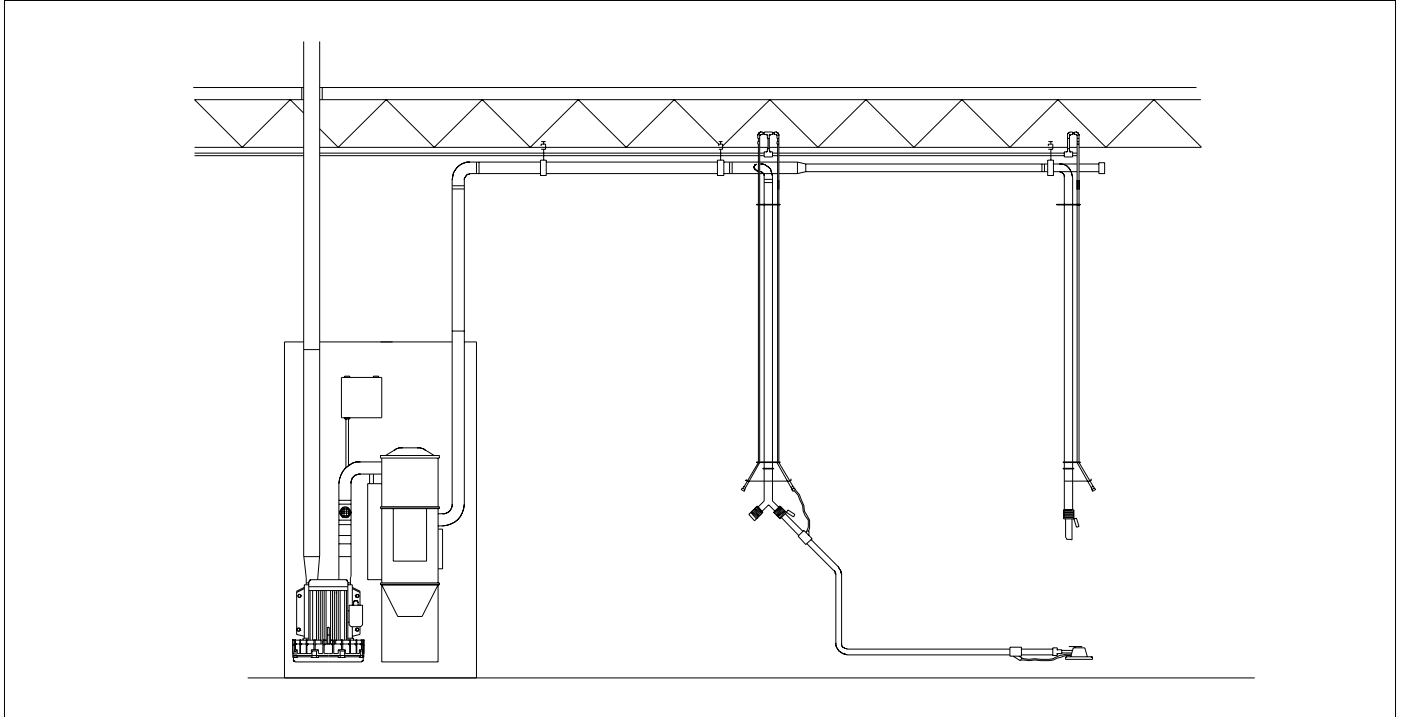
Fit the air pressure regulator to the inlet of the air header tank using the piping part kit provided. Run a ³/₄" pipe from the plant air supply to the regulator and connect.



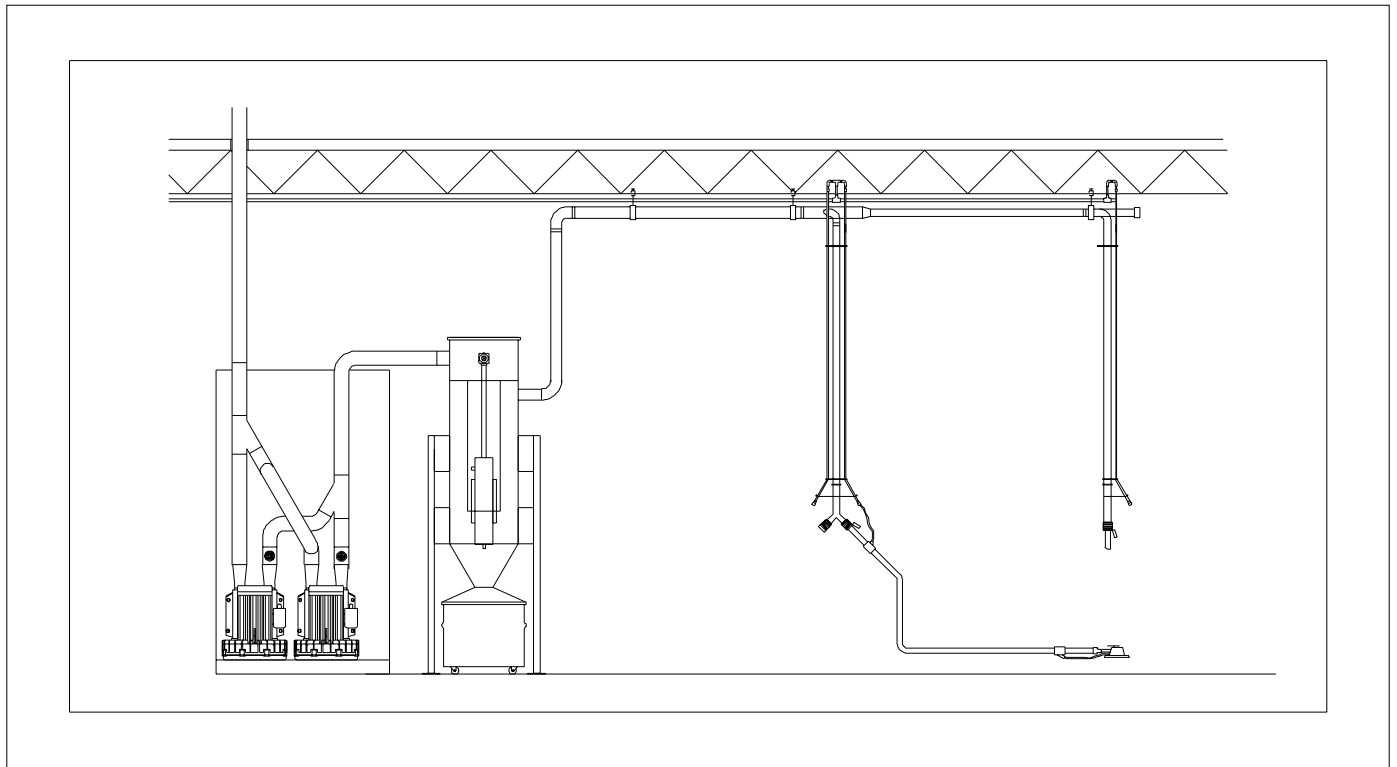
Typical 14" Pulsejet Separator Installation complete with Cyclone



Typical 30" Bag House Separator Installation



Typical 14" Pulsejet Separator Installation



Typical 19" Pulsejet Separator Installation