

Hoses

A Properly Piped Shop Of Prime Importance for a Premium Finish.

The bottom line in finishing is a quality paint job. Though on the surface it may not seem a significant factor in your being able to turn out a quality paint job, the plumbing of your shop's air lines is very important. Correct installation is necessary for the proper performance of your equipment – for an uncontaminated air supply and for sufficient pressure to your spray gun.

Correct airline piping is so important that this one factor alone can reduce contaminants in your air supply up to 75%*. Reducing contaminants to the filter also reduces the frequency of filter replacement, maintenance, and of course, reduces the risk of contaminants to the paint supply.

Even the size of the pipe is critical. Did you ever have only 60 or 70 pounds of pressure at your spray gun when your compressor should deliver 100 pounds? Using pipe that is too small in diameter can cause this pressure drop.

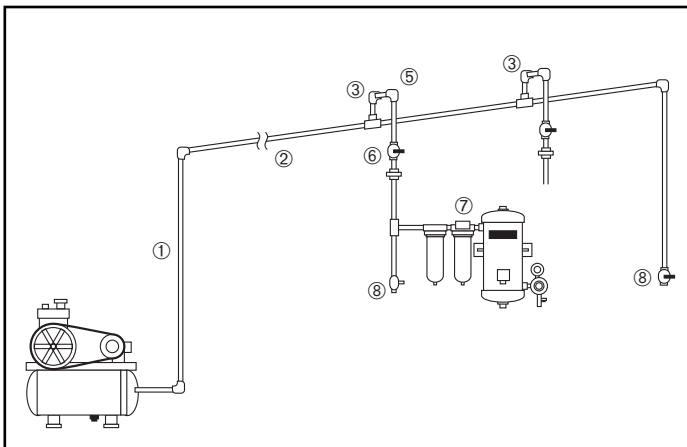
For example, if an air compressor delivers 100 psi through a 100 ft. pipe, 1/2" in diameter, there's greater pressure drop than if a 3/4" diameter pipe were used.

The following chart will help reduce pipe pressure drop.

Minimum Pipe Size Recommendations

Compressor Size Capacity	Compressor Air Line	Main Diameter	Min. Pipe
1 1/2 & 2 HP	6 to 9 CFM	Over 50 ft.	3/4"
3 & 5 HP	12 to 20 CFM	Up to 200 ft. Over 200 ft.	3/4" 1"
5 to 10 HP	20 to 40 CFM	Up to 100 ft. 100 to 200 ft. Over 200 ft.	3/4" 1" 1 1/4"
10 to 15 HP	40 to 60 CFM	Up to 100 ft. 100 to 200 ft. Over 200 ft.	1" 1 1/4" 1 1/2"

*Under no circumstances are we advising that correct air line piping reduces contaminants so much that you do not need a filtering system. A point-of-use filter is still strongly recommended.



Body Shop Air Line Plumbing Guide:

1. After leaving the air compressor, air line pipe goes straight up the shop wall as high as possible. This helps prevent any water from leaving the compressor and traveling through the pipe.
2. Horizontal pipes should slope back towards the compressor at least 4" per 50 ft. As warm air leaves the compressor, it cools and thereby condenses as it travels through the pipe. This water vapor, a problem in itself, also can cause scaling and rust inside the piping. The backward sloping of the pipe helps push these contaminants toward the compressor drain.
3. Take-off comes from the top of the main air supply line at each air drop. This reduces the risk of water and other contaminants from traveling down the drop into the water separator.
4. Pipe diameter must be of sufficient size for the volume of air being passed as well as the length of pipe used. This will minimize pressure drop.
5. First air drop should be at least 25 ft. from the compressor although 50 ft. is optimum. This allows the compressed air to cool to room temperature so any condensation can occur before it gets to the water separator.
6. Shut-off valve is installed before the point-of-use filter. This allows air to be shut off for the filter maintenance.
7. Point-of-use filter (not shown) attaches to spray gun and is strongly recommended for eliminating any remaining contaminants.
8. Drain Valves – The daily draining of the system at each outlet disposes of the contaminants that build up in the air supply.
9. Drain the compressor trap daily if equipped with a manual drain.

Proper maintenance of the air compressor can reduce airborne contaminants such as particules and oils, and reduce heat and operating cost. Check air filters, oil level and perform regular maintenance per operating manuals.

Guidelines to Piping Your Shop

- Pipe slopes upward – recommended 4" rise in 50 ft.
- Minimum 25 ft. to first outlet (50 ft. optimum)
- Pipe size (see chart)
- Shut off valve before filter
- Drain daily

DEVILBISS®

ITW Automotive Refinishing
An Illinois Tool Works Company
1724 Indian Wood Circle
Maumee, OH 43537-4048
Telephone 419-891-8100
Fax 419-891-8110
www.devilbiss.com

