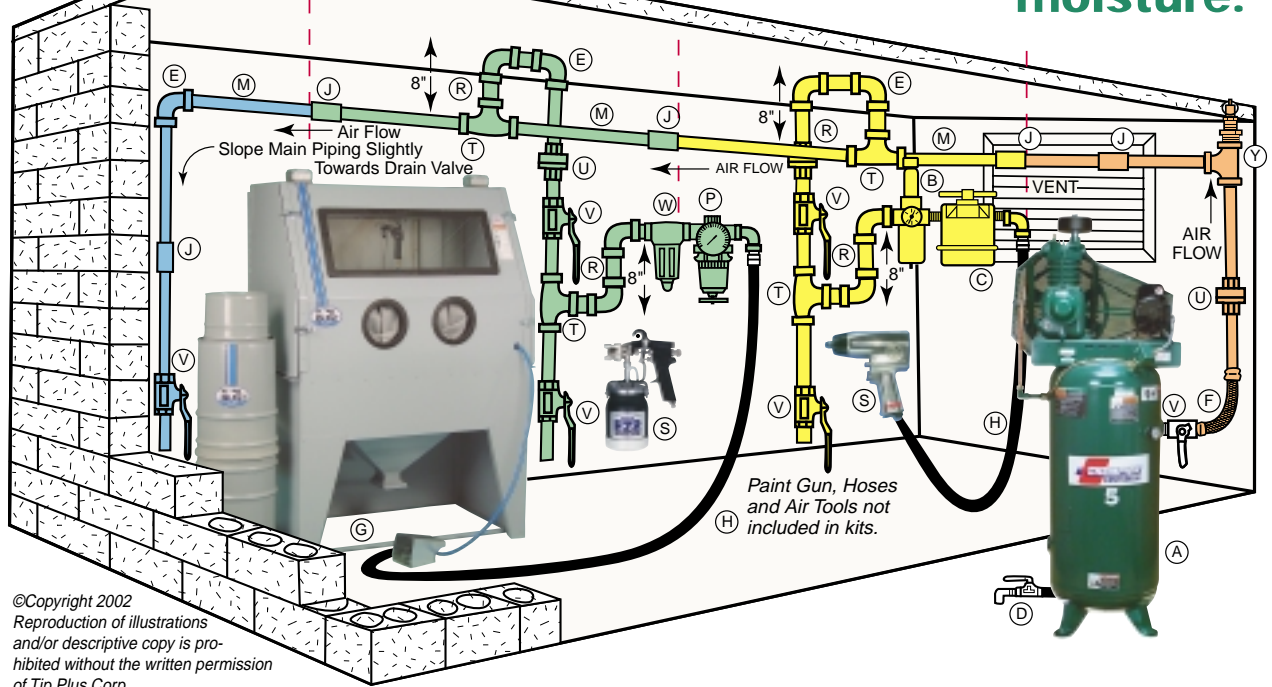


# Metal Piping



## METAL PIPING-The best way to install air lines and reduce moisture.



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|--|---|
| (A) Air Compressor. 5 HP, 2-stage recommended.                   | (J) Coupling - connects lengths of pipe together.                           |
| (B) Filter-Regulator with gauge (#3411-12)                       | (M) Main Piping (1/2" ID iron pipe minimum - use 3/4" pipe over 75ft.).     |
| (C) Coalescing Filter (#3405-60)                                 | (P) Pressure Regulator and Gauge (#3409-00 and #3407-00)                    |
| (D) Drain Valves (Drain water daily).                            | (R) Riser: an important requirement of a good piping system (6"-8" high).   |
| (E) Elbow, steel pipe fitting.                                   | (S) Air Tool  |
| (F) Flexible Metal Hose at compressor.                           | (T) Tee - steel pipe fitting.   |
| (G) Glass Bead Cabinet.  | (U) Union - always install a few in air lines for later changes or service. |
| (H) Hose: air inlet hose 3/8" ID up to 25ft., 1/2" ID over 25ft. | (V) Brass Ball Valves - for air shutoffs and drains.                        |
|  | (W) Water Separator (#3402-00 or #3404-00)                                  |
|  | (Y) Pressure Relief Valve - very important safety feature.                  |
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- |  |
|--|
| (AA) (orange) Starter Kit - available from TP Tools (#AA-50 or #AA-75)                 |
| (BB) (yellow) Moisture & Oil Removing Kit - available from TP Tools (#BB-50 or #BB-75) |
| (CC) (green) Moisture Removing Kit - available from TP Tools (#CC-50 or #CC-75)        |
| (EL) (blue) End of the Line Kit - available from TP Tools (#EL-50 or #EL-75)           |
| (AP) All Above Piping Kits - available from TP Tools (#AP-50 or #AP-75)                |

### Metal Piping eliminates moisture and air volume problems

Lengths of air hose can be used to connect compressor to air-operated equipment, but ONLY on a temporary basis. When using long lengths of air hose, moisture remains in a vapor form and will pass through most water separators. The ideal setup is to use metal piping\*, (1/2" ID up to 75ft., 3/4" ID over 75ft.), from your compressor to various locations in your shop. Mount piping along the walls of your shop with separators and regulators fastened to the wall and a valve installed at each outlet. By using metal piping of proper size, not only does the piping serve as an "air reservoir", it also enables the moisture-laden air to cool so that the water separators can do their job. A properly installed system of metal piping will eliminate most problems of moisture and will provide sufficient air volume to the air-operated equipment. The most important feature is to use "Risers" (shown above). "Risers" allow system to draw dry air, leaving moisture in the piping where it can be removed with water separators.

\*Use regular black metal piping for installation. PVC or copper is not recommended.

*Tip Plus Corp. makes no representation or warranty that the method of construction suggested by this drawing is suited to the particular purpose you may intend. You should in any event rely upon the advice of your own plumber. Tip Plus Corp., its employees and agents, disclaim any and all liability for improper installation and/or reliance upon this drawing and advises that it has not held itself out as an expert in such matters.*

# Minimize moisture in your air lines with metal piping.

**Let's talk about metal piping .....** When we moved into our Canfield, Ohio plant, we had a shop full of air tools and needed to get set up quickly. We ran temporary rubber air hoses, and had 4-way crosses and quick connectors everywhere. **Hoses were scattered all over the ground. Within 2 weeks, we started to have problems** - air drills were failing, air rivet guns would not operate properly, and shears and other air-operated equipment were out of order more often than not. **The reason this happened is simple. By using long lengths of air hoses, moisture remained in a vapor form, which passed through our water separators. Regardless of the number of water separators installed, moisture worked into our air-operated equipment, causing premature failure.** We needed to make corrections quickly, so we equipped our entire shop with metal piping.


















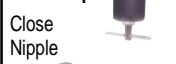





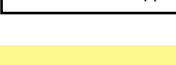

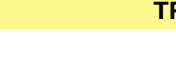



The results - no more burned out air tools, no more clogged air filters and fittings, and our air tools lasted for years! **We firmly believe that a properly designed piping system will eliminate 95% of all moisture problems and will result in smooth running air-operated tools and equipment.** Even a small shop should be properly piped. With our new "modular piping kits", you can install the correct system in your shop at a reasonable cost.

Using our diagram and components, you can easily handle the installation yourself! Start with "AA" (Orange Starter Kit) from your air compressor. Then add each module as you expand your shop: "BB" (Yellow Moisture & Oil Removing Kit) and "CC" (Green Moisture Removing Kit). Final section is "EL" (End of the Line Kit), which provides a convenient drain outlet. Add as many modules as you need - from a small shop with one or two outlets to a large shop with many outlets.

**Proper and inexpensive metal shop piping is the answer to moisture problems and will last for many years.** Choose 1/2" or 3/4" metal pipe sizes. See chart below for description of fittings in each kit. Mount piping along the walls of your shop. Not only does the metal piping act as an "air reservoir", it also enables the moisture-laden air to cool, so the water separators can do their job. The most important feature is the use of "risers", which allow the system to draw dry air from the piping, with the water separators removing most of the remaining moisture. (Moisture condenses in the cold metal pipes and can be easily removed by the water separators.) **The result is clean, dry air to all of your air tools and considerably longer life for any air-operated tool or equipment.**

**Use Black Iron Pipe only.** We do not recommend galvanized metal pipe, as galvanization can come off the inside of the pipe, clogging separators and regulators. Do not use plastic pipe, as plastic will not help cool the air; and glued joints often separate. Avoid copper tubing, as it is easily damaged; and soldered joints can come loose under pressure (Safety Hazard). Use 1/2" pipe for up to 75 feet of horizontal runs of pipe from your compressor. Use 3/4" pipe for horizontal runs of over 75 feet.

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	Description	Order #		Description	Order #
	<b>A</b> Air Compressor - 5 HP 2-stage recommended. We stock a huge selection.			<b>R</b> Pipe Nipple, Steel - 1/2" & 3/4" MPT, Black	
	<b>B</b> 1/2" Filter-Regulator with gauge and automatic drain. Made in USA	3411-12		1/2" x 6" long Nipple, 3 pk	4050-06-3
	<b>C</b> 1/2" Coalescing Filter	3405-60		3/4" x 6" long Nipple, 3 pk	4075-06-3
	Extra Element	3500-60		<b>S</b> Paint Spray Gun - In Stock for HVLP and conventional Paint Spray Equipment.	
	<b>D</b> Drain Ball Valve, 1/4"-3/4" in stock.			<b>T</b> Tee, Metal Pipe - 1/2" & 3/4"	
	<b>E</b> Elbow, 1/2" Female Thread, 2pk	4050-EL-2		1/2" Tee, Female, 2 pk	4050-TE-2
	<b>F</b> Elbow, 3/4" Female Thread, 2pk	4075-EL-2		3/4" Tee, Female, 2 pk	4075-TE-2
	<b>F</b> Flexible Metal Hose, 1/2"x12"L	8524-00		<b>U</b> Union, Metal Pipe. Available in 3 sizes:	
	<b>F</b> Flexible Metal Hose, 3/4"x12"L	8525-00		1/2" Union, 2 pk	4050-UN-2
	<b>G</b> Glass Bead Cabinet			3/4" Union, 2 pk	4075-UN-2
	<b>H</b> Air Hose for hoses and couplings.			<b>V</b> Brass Ball Valves - Various Sizes:	
	<b>J</b> Coupling, 1/2" Female Thrd, 2 pk	4050-CP-2		1/4" Female Threads, ea	3006-01
	<b>J</b> Coupling, 3/4" Female Thrd, 2 pk	4075-CP-2		1/2" Female Threads, ea	3005-01
	<b>M</b> Main Piping: 1/2" x 36" long, ea	4050-36		1/2" Male Threads 1 end, ea	3005-M
	<b>M</b> Main Piping: 1/2" x 36" long, 4 pk	4050-36-4		3/4" Female Threads, ea	3007-01
	<b>M</b> Main Piping: 3/4" x 36" long, ea	4075-36		1/2" Cast Iron Steel, ea	3001-00
	<b>M</b> Main Piping: 3/4" x 36" long, 4pk	4075-36-4		<b>W</b> Water Separator - (Made in USA)	
	<b>P</b> 1/2" Pressure Regulator regulates air flow from 0-200 psi. (Gauge extra cost)	3409-00		1/2" inlet & outlet	3402-00
	<b>R</b> Pipe Nipple, Steel - 1/2" & 3/4" MPT, Black			1/2" w/Sight Glass & Auto Drain	3404-00
	1/2" x Close Nipple, X-heavy, 3pk	4050-00-3		All separators & regulators have 1/2" pipe threads.	
	3/4" x Close Nipple, X-heavy, 3pk	4075-00-3		<b>Y</b> Pressure Relief Valve, 1/2" thrds, ea	4000-50
	1/2" x 4"L, Short Nipple, 3 pk	4050-04-3		<b>Z</b> Wall Mtg. Bracket w/clamps, 3 pk	4000-03
	3/4" x 4"L, Short Nipple, 3 pk	4075-04-3		<b>Problem Solver Piping Kit - 11 pc</b>	4216-00
				<b>Reducing Bushing Pipe Kit - 11 pc</b>	4246-00

See web site for pipe fittings, water separators and air regulators, and moisture- and oil-removing kits.

Air Line Hookup