# PROPER SYSTEM DESIGN CAN INFLUENCE AIR TREATMENT NEEDS

**A properly designed system can offer cleaner air of the appropriate volume and pressure translating to better tool performance and worker productivity.**

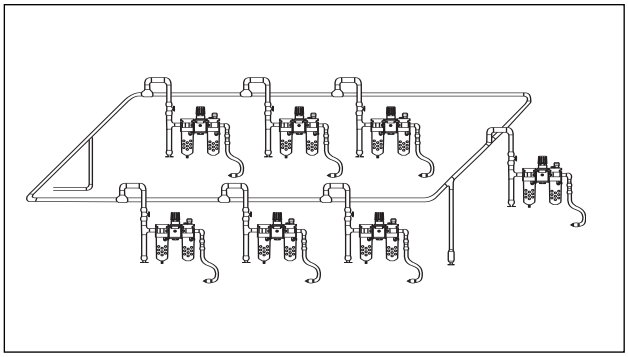
## SYSTEM DESIGN AND FRL UNIT PLACEMENT

System design should start with a layout of the shop or plant. Designate where and what tools will be used. Determine the placement of the mainline. Try to keep the line as short as possible while providing access to where tools are used. Try to keep in mind any future needs or alterations. It is much easier to make changes if they are planned for.

Drop supply lines at the point of use or at regular intervals, to minimize hose length. Size the lines appropriately for the equipment to be used.

Each supply line should be installed with at least a filter and regulator. FRLs should be installed at the point of use, allowing the air to be conditioned properly for the application. Designate appropriate supply lines as clean air lines for use with paint guns, blow guns or tire inflator gauges.

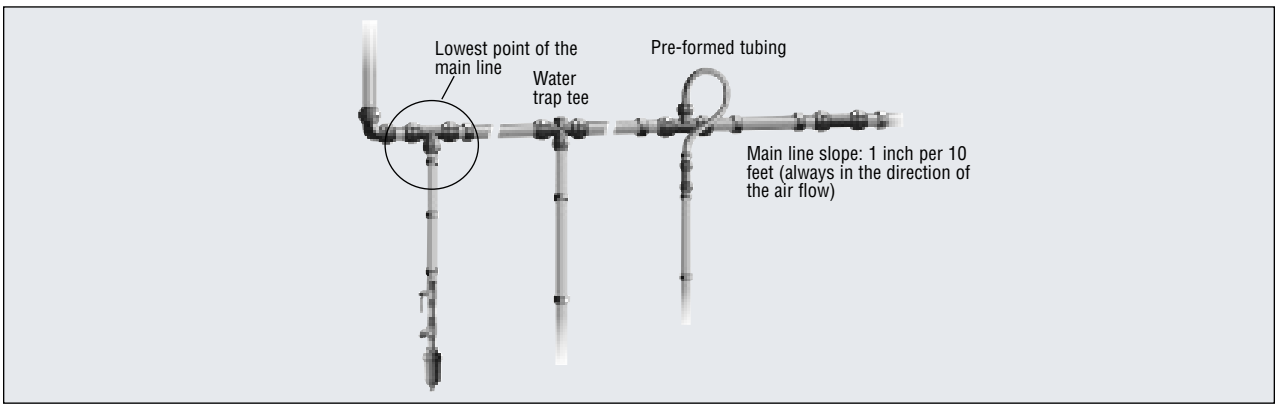
On lines operating air tools, install lubricators to extend tool life.



## PROPER SLOPES AND DROPS

As for the slope of network pipes, either for lines running along exterior walls or within a building, there should be a minimum inclination of 1 inch for every 10 feet of length. This will lead any condensation toward water evacuation points.

It must be noted that the feeder pipe may perform both functions: air flow and the elimination of condensed liquids. Secondary pipes attached below the main pipes should include a ball valve and will help eliminate condensation at their feet by the presence of evacuation valves.




# PROPER DISTRIBUTION SYSTEM INSTALLATION

- Properly installed pipe minimizes the amount of moisture at the point of use. Piping should slope in the direction of the air flow to an accessible moisture drain point
- Outlets should be taken from the top of the main air lines to keep moisture out
- Assemble and test for leaks one section at a time to avoid major disassembly later
- Pipe unions should be installed at regular intervals. This makes future repairs and modifications easier
- Teflon sealant should always be used on threads to eliminate air leaks
- Tapered threads should not be overtightened as this could cause the fitting to crack
- Air lines should be secured to a solid surface using pipe clamps
- All piping and fittings should be checked regularly to avoid leaks in the system. An air leak will reduce the amount of air to the tool, causing pressure drop. It will also cause the compressor to work longer and harder, increasing energy and maintenance costs. See serie 41 System Check for air leak costs.