

Filter/Regulator & Lubrication Systems... A simple guide.

What are they? Where are they installed? Why would you spend the \$ to buy them?

First off, air leaving a compressor is hot, dirty and wet ... All elements that can damage and WILL shorten the life of expensive equipment and tools. That is why it is essential to protect your investments. Let's talk FILTERS first- Water vapor is the MORTAL enemy within a pneumatic system. The airline filter cleans this compressed air in two important stages:

First Stage - Air entering the filter is directed downward and with the resulting vortex action, liquids and particles are forced to the bowl wall and then extracted.

Second Stage - Air flows inward through the filter element where additional contaminants (as small as 4 microns) are removed with little pressure loss.



PRESSURE REGULATOR component. These reduce as well as control the air pressure in compressed air systems....maintaining an optimal and constant output pressure no matter the input pressure variations. Some of the applications include air tools, blow guns and aerosol lubrication systems.



Why is this important?

- 1) Allows for precise downstream pressure control.
- 2) Built-In safety piston diaphragm assembly automatically vents excess air in the event the downstream pressure exceeds the desired regulator setting.

This prevents excessive pressure from reaching your tools. Excessive pressure causes tools and seals to overwork which can cause over-speeding of the tools' internal mechanisms. Both will decrease the life of your tools.

LUBRICATION element. Truly a key factor in ensuring consistent operation of the tools. It adds a set quantity of oil into the compressed air system reducing moving component friction. How? Pressurized air is introduced and guided through the body where it turns into a smooth aerosol providing the needed lubrication to the working tools. This is critical to air tool life extension.



Additional Value-Add FRL Options

The Piggyback Regulator and Filter System

All in one. Modular design provides extra space while reducing the overall weight load and saving time.



Coalescing Filter System

Designed for applications that require air free of oil, water and foreign particles. It is best to locate these as close as possible to the actual tool. This is recommended for precision tools and actuators.

Desiccant Dryer System

Primarily for more heavy duty operations where any amount of moisture may cause an issue, or operations where extremely dry air is necessary.

More commonly found in a wide range of industrial and commercial facilities.

Desiccant dryers are placed after both Micro Filters and Coalescing Filters, in order to allow the desiccant pellets to absorb effectively.

Note - These cannot be used with a lubricating system. Perfect for spray painting applications, or applications where small amounts of moisture may cause issues.



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FITTINGS

BLO-GUNS

FRLs

PUSH-TO-CONNECT

INFLATOR GAGES

PRESSURE &
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FRL Fun Facts

Air Compressor Compatibility: Big or small, our FRL systems will work with whatever pressure your air compressor provides.

Component Size

Mini - To be used closer to machinery or tool/application

Standard - For traditional use in home garage, small workshop or DIY application.

Heavy Duty - High flow system that is placed closer to compressor... for larger shop applications

SCFM - Standard Cubic Feet Per Minute

Regarding your FRL selection, SCFM only matters when it comes to the application. The SCFM rating of your air compressor is only the speed at which air enters a storage tank. Most pneumatic tools use air much faster than most air compressors can produce it.

EXAMPLE:

- Actual air tool usage is 4 to 5 times the “average SCFM rating” because you aren’t using a tool all the time. However, to get the most out of the tools, it’s best to have the air system capability CFM higher than the tools you plan to use. For example a ½” impact wrench can use as much as 35 SCFM, so make sure all the components upstream of that tool flow an amount of air greater than the tool. 2x if you plan to run two tools.

140 CFM (Auto shop, large workshop or an area that utilizes multiple locations)

247 CFM (Auto shop, large workshop or an area that utilizes multiple locations)

Applications

- Filter** - Critical for every application to ensure the elimination of water and particulates from your airline, machinery and tools
- Pressure Regulator** - The pressure regulator provides uniform controlled pressure to the system and ultimately the tools. The pressure in the air compressor tank rises and falls with usage and pump cycling. The air pressure regulator isolates the system from this and delivers air at a consistent pressure.
- Lubricator** - In-line lubrication takes the human element out of lubricating air tools. The tool is automatically lubricated to ensure long life from the tool. Lubricated air lines and hoses should be segregated to prevent cross contamination. General use air lines, for inflation, cleaning or painting should never have in-line lubrication.

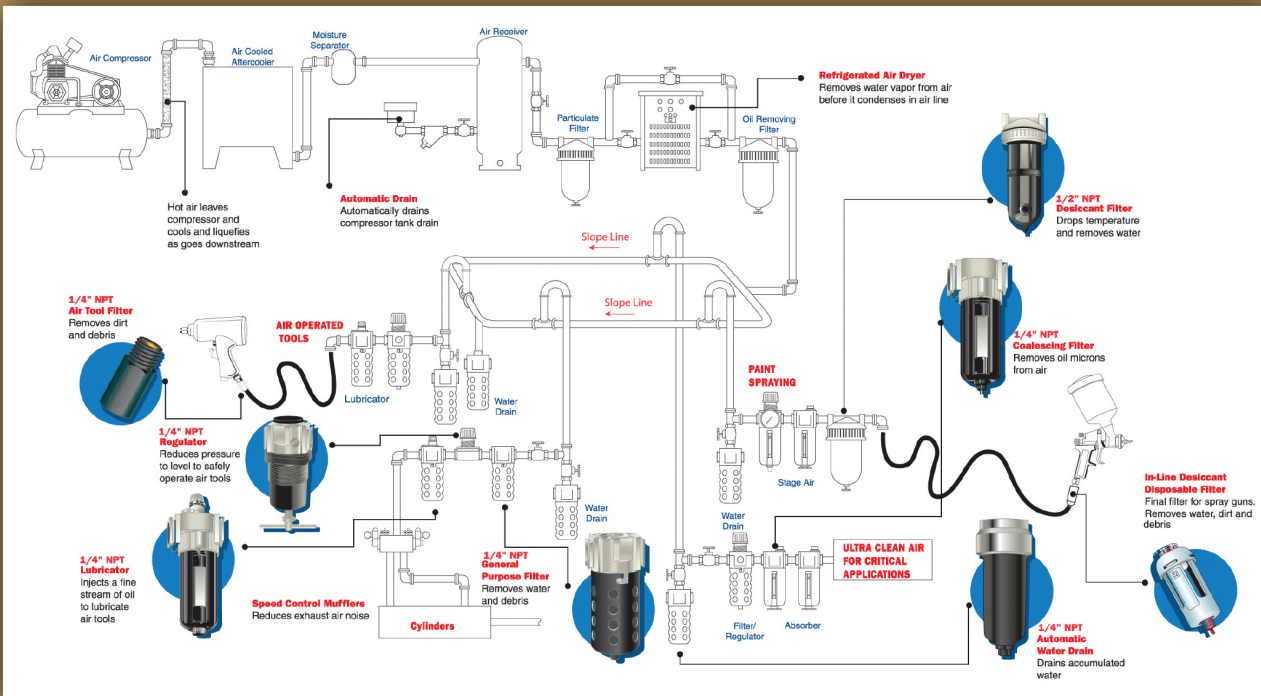


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TECH TIPS

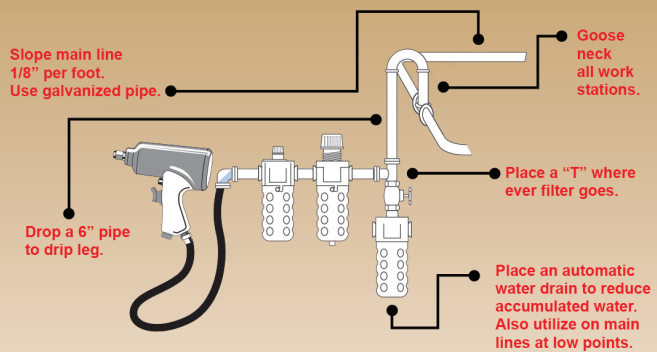
Building An Efficient Air System

Compressed air powered equipment and machinery are critical elements in the productivity, efficiency, and economy of today's industry and quality air is the essential element. Water and dirt cause more problems in compressed air lines than anything else. High speed pneumatic production lines operate efficiently because of air dryers and filters that remove moisture and impurities from the air, which results in eliminating downtime. Regulators and lubricators can be added to control and lubricate downstream equipment. A good air system is the key to saving time, money and to operating at maximum efficiency.



5 Important Steps to an Air System Set-Up

- 1** Main line filter and regulator should be placed at least 20 feet from the compressor. The air will cool down, allowing much of the water vapor to condense naturally for removal by filtration.
- 2** Main line piping should slope down from point of origin by 1/8" per foot. Any water in the line will flow down to the lowest point for draining.
- 3** All line drops (work stations) should be taken from the top of the main line. This prevents water from flowing into branch lines.
- 4** Galvanized pipe is recommended when building an air system.
- 5** Follow illustration to the right when building a work station drop.



PRECISION LUBRICATORS (cont)

Heavy Duty Lubricators



1131-9



1131-10



1132-8

Part No.	1131-9	1131-10	1132-8
NPT	3/4"		1"
Bowl Type	Metal Bowl		
Bowl Capacity	10 oz	20 oz	29 oz
Maximum Air Pressure	200 PSI		
Operating Temps	40°F to 120°F		
Maximum Air Flow	142 SCFM	142 SCFM	175 SCFM
Sight Glass	YES		
Mounting Bracket	s-1163-1*		1163-20*

*sold separately, below

IN-LINE LUBRICATOR



s-639

To lubricate pneumatic tools for full protection by accurately metering correct amount of oil

Retail Part No.	Per Card	Inlet NPT	Product Specs Outlet NPT	Capacity
s-639	1	1/4" Male	1/4" Female	1/2 oz

MOUNTING BRACKETS

Wall Mounting Brackets



1160



s-1163-22



s-1163-14

Part No.	For Use With:	Milton® FRL components			
s-1163-22	Mini Filters (pg 46) Mini Lubricators (pg 50)	s-1144 s-1150	1144-2 1150-1	1144M 1150M	
s-1163-1	Standard Filters (pgs 46-47) Standard Lubricators (pgs 50-51)	1018/1018-6/1018-8 1029/1029/8 1101/1101M 1107	1019/1019-6/1019-8 1030/1030-8 1036 1037 1102/1102M 1108	1020/1020-6/1020-8 1031-8 1037-8 1103/1103M 1120-6	1028/1028-8 1035 1100/1100M 1106 1120-8
1163-20	Heavy Duty Filters (pg 47) HD Lubricators (pg 51)	1022-8 1131-10	1022-10 1132-8	1131-9 1104M*	
1160	Mini Regulators (pg 48) Mini Piggybacks (pg 54)	s-1140 1145/s-1145	s-1142 1145-2	1142-1 s-1146	1142-2
1163	Standard Regulators (pgs 48-49) Standard Piggybacks (pg 54)	1026/1026-8 1111/1111-1/1111-5	1027/1027-8 1113/1113-8	1109/1109-1/1109-5 1114/1114-8	1110/1110-1/1110-5 1115/1115-8
1163-21	Desiccant Dryers (pg 55)	1122-8	1170	1170-2	1071
s-1163-14	Modular Accessories (pg 60)	1106-1* s-1163-6 s-1163-11	s-1163-3 s-1163-8 s-1163-12	s-1163-4 s-1163-9 s-1163-13	s-1163-5 s-1163-10

Pipe Mounting Brackets



1165
1166
1167

Part No.	Size	For Use With:
1165	Small Pipe Mounting Bracket	1/4" & 3/8" OD Air Supply Pipe
1166	Medium Pipe Mounting Bracket	1/2" OD Air Supply Pipe
1167	Large Pipe Mounting Bracket	3/4" & 1" OD Air Supply Pipe

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