

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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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.

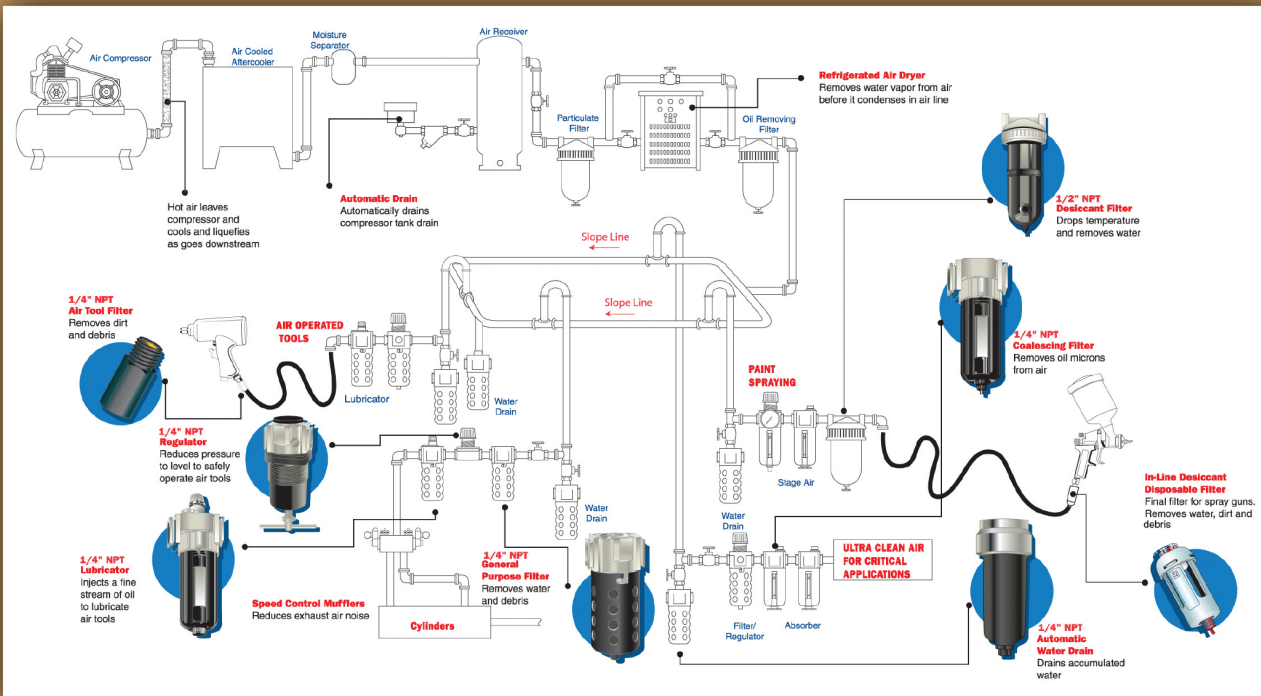


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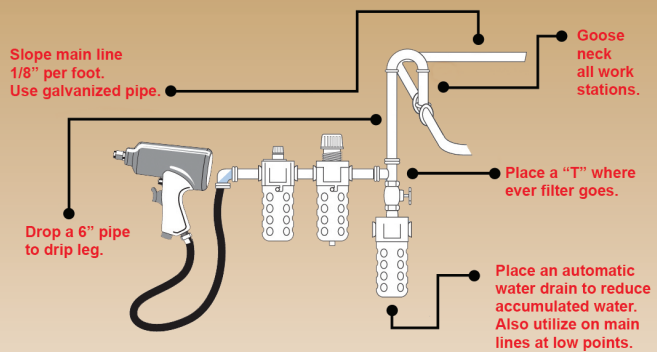
Building An Efficient Air System

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.



DESICCANT DRYER SYSTEMS

1/2" Compact Desiccant Dryers



Delivers extremely dry compressed air as low as -30°F dew point without using electricity or refrigerant. Easy to monitor, when color changes in the sight glass from dark blue to pink, then it is time to change or dry the desiccant. To dry desiccant, remove from unit, bake at 275°F for 3 hours. To prolong the life of the unit, a 40 micron pre-filter, and .03 coalescing filter should precede dryer. Initial supply of desiccant is included

Part No.	1170	1170-2
NPT	1/2"	
Bowl Type	Metal Bowl	
Bowl Capacity	1 Quart	2 Quart
Maximum Air Pressure	250 PSI	
Maximum Air Flow	5-15 SCFM	15-25 SCFM
Mounting Brackets	1163-21 (sold separately, pg 51)	

Part No.	Description
P1170-12	Desiccant Dryer Element Kit for 1170
P1170-15	Desiccant Dryer Element Kit for 1170-2

1/2" Desiccant Dryer System



Not only dries the compressed air, but also removes dirt and oil. Each factory assembled system consists of the components listed below. Both filters are equipped with Milton® automatic overnight drains that will drain when the system drops below 5 PSI. Initial supply of desiccant is included

Part No.	1071		
Component Description	Filter	Coalescing Filter	Desiccant Dryer
Component Part Number	1020-8	1037	1170
NPT	1/2"		
Bowl Type	Metal Bowl		
Bowl Capacity	6 oz	29 oz	
Max Air Pressure	250 PSI		
Operating Temps	40°F to 160°F		
Maximum Air Flow	100 SCFM	37 SCFM	5-15 SCFM
Included Filter	40 Micron Bronze Sintered		N/A
Sight Glass	No Sight Glass		YES
Drain Type	Automatic Overnight		N/A
Mounting Brackets	1163-21 (sold separately, pg 51)		

1/2" Deluxe Desiccant Dryer System



Not only dries the compressed air, but also removes dirt and oil. Each factory assembled system consists of the components listed below. Both filters are equipped with Milton® automatic overnight drains that will drain when the system drops below 5 PSI. Initial supply of desiccant is included

Part No.	1072			1072-2		
Component Description	Piggyback F-R	Coalescing Filter	Desiccant Dryer	Piggyback F-R	Coalescing Filter	Desiccant Dryer
Component Part Number	1111	1037	1170	1111	1037	1170-2
NPT	1/2"			1/2"		
Bowl Type	Metal Bowl			Metal Bowl		
Bowl Capacity	6 oz	1 Quart		6 oz	2 Quart	
Relieving Model	0-160 PSI	N/A		0-160 PSI	N/A	
Max Air Pressure	250 PSI			250 PSI		
Operating Temps	40°F to 160°F			40°F to 160°F		
Maximum Air Flow	100 SCFM	37 SCFM	5-15 SCFM	100 SCFM	37 SCFM	15-25 SCFM
Included Filter	40 Micron Bronze Sintered		N/A	40 Micron Bronze Sintered		N/A
Sight Glass	No Sight Glass		YES	No Sight Glass		YES
Drain Type	Automatic Overnight		N/A	Automatic Overnight		N/A
Mounting Brackets	1163-21 (sold separately, pg 51)					



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