THE IMPORTANCE OR AIR PREPARATION AT THE POINT OF USE

Although a number of measures have been taken to treat the air at the compressor outlet, the compressed air may still contain traces of water and impurities.

- Some applications require ultra clean and dry air (eg paint applications)
- Not all tools and equipment operate at the same pressure as the main air system
- Some tools, valves and cylinders must be lubricated to reduce premature wear of moving parts

Air preparation is the process that ensures air meets these criteria and consists of three components:

- **Filtration:** removal of impurities and a large part of the water still present in the air system
- **Regularization**: adjustment of the air flowing at the pressure required for the intended use
- **Lubrication**: injection of a controlled amount of lubricant, oil mist or fog into the compressed air system

FILTRATION

The ambient air contains billions of polluting particles that, when in high concentration and at high velocity, can cause damage to any compressed air system, air tools and equipment.

In addition, ambient air entering a compressor may have, depending on certain temperatures and conditions, a relative humidity of up to 100%. The air being compressed and cooled condenses into water vapors. Even with the addition of an air dryer, traces of moisture can be found in the compressed air system. In contact with water, air tools rust, lubricants lose their efficiency and the pipes freeze as temperatures fall.

Impurities that form within the system (debris from wear, scaling) rust, or residues from installation and assembly as well as dirt that seeps into the system during maintenance or leakage can all be found in the system.

All of these contaminants as well as any water must be removed with a filter to ensure that the compressed air system operates efficiently.

Most compressors produce oil in the form of mists or droplets, which pass through an ordinary filter. A coalescent filter must be used to remove these vaporized oils (e.g. for painting applications).

REGULARIZATION

An air regulator is a control valve designed to regulate the upstream pressure to a downstream pressure level. This level must be constant and accurate, regardless of the variations in the upstream pressure or the flow rate through the valve.

Compressed air tools and equipment whose pressure exceeds the recommended level wastes the energy generated by this pressure, is cause a risk of accident as well as prematurely wear out the equipment.

On the other hand, a system that operates below the suggested level of pressure does not perform at the level for which it is designed. Precise air pressure control is required to ensure that the compressed air system is fully effective.

LUBRICATION

Many components of the compressed air system and most air tools must be lubricated to ensure proper operation and service life.

Too little oil can cause excessive wear and cause premature breakage. Conversely, too much oil is a waste and can become a source of pollutants, clogging pipes and equipment.

Inconsistent lubrication must be avoided because the oil film will dry and create a form of sludge and lacquer on the inside surfaces.

A proper, well-adjusted oil mist lubricator installed within 15 feet of the application will ensure proper lubrication of the tools and extend service life without causing pipe damage.

A suitable micro-fog type lubricator can be installed at a distance of 100 feet from the application.

FRL COMBINED UNITS

Filters, coalescing filters, regulators and lubricators are usually installed in combination, near the application.

These combinations are designed to provide the exact level of air treatment required, in a compact format. These combinations always include a filter and a regulator (which can be combined into one unit), followed by either a lubricator (for air tools) or a coalescing filter (for paint applications).

The choice of these combined units must be made according to the flow capacity of the most restrictive unit and according to the needs of the application.

INSTALLATION AT THE APPLICATION

WHERE TO INSTALL A FILTER?

- Install the filter as far as possible from the compressor to allow the compressed air to cool and water vapors to condense. Removal of water in liquid form is more effective than removing water which is vapor form.
- Install the filter closest to the tool and before the lubricator and regulator
- Always install the filter with the arrows pointing to the tool or application

WHERE TO INSTALL A REGULATOR?

- Install the regulator on each pipe where applications and air tools requires different working pressure
- Always install the regulator downstream of a filter and upstream of a lubricator
- Can be installed vertically or horizontally
- Always install regulator with the arrows pointing to the tool or application

WHERE TO INSTALL A LUBRICATOR?

- Install as close to the tool as possible - within 5 meters or 30 meters for micro-fog type lubricators
- Always install downstream of a filter and a regulator
- Ensure that the lubricator is easily accessible for filling pneumatic tool oil
- Always install with the arrows pointing to the tool or application

MOUNTING

Regardless of the assembly, these units will only be able to hold using pipes and fittings.

The addition of mounting brackets will prevent leakage to the intake threads.

AIRPRO
IN-LINE LUBRICATORS

ERGONOMICS

Air tools cannot maintain their full efficiency if the mechanism is impaired by corrosion, condensation or lack of lubrication.

In-line lubricators allow air tools to operate at full efficiency by preventing sticking, thereby extending service lifespan.

Effective tool lubrication saves money by reducing equipment down time.

360° Swivel outlet

Product No	Thread NPT	Maximum Flow Rate SCFM	Oil Capacity cc
62.110	1/4	15	5
62.112	1/4	20	9
62.115	3/8	30	9
62.117	3/8	30	22
62.118	1/2	65	22

Please see page 460 for typical air tool consumptions

Features and benefits

- Provide instant oil flow so critical to time cycled air tools such as staplers and nailers
- Compact and lightweight, connect directly to the tool
- An effective alternative to larger, more costly units that may not deliver lubricant to the tool due to excessive hose length
- Automatic lubrication in the form of mist upon passage of airflow
- Lubricant will not leak into the air line upon pressure drops or disconnection
- Adjustment screws under the filler cap to control the amount of expelled oil
- Corrosion resistant
- 360° swivel outlet port

Applications

Ideal for air tools but specially designed for staplers and nailers with intermittent use

Specifications

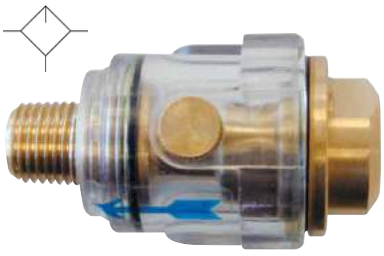
Maximum Working Pressure: 150 PSI

Working Temperature: 0 to 52 °C

Materials

Body: Anodised aluminium
Insert: Nylon
Nut: Cadmium plated steel
Seals: Nitrile rubber

MAXPRO
IN-LINE LUBRICATOR



Product No	Thread Inlet (F) NPT	Thread Outlet (M) NPT
62.108	1/4	1/4

Features and benefits

- Automatically lubricates a tool by feeding a measured amount of oil mist each time the tool is cycled
- When stationary lubricators are not available, these mini-inline lubricators will provide an excellent oil source while adding only 2 in length to any tool
- Clear plastic reservoir to check oil supply

Specifications

Maximum Working Pressure: 120 PSI

See the video "Ergonomic connection" at **TOPRING**.com