



Best Pneumatic Practices- Air Preparation

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Pneumatic systems have many components in an ever-improving industry. Whether you are sizing up a new system or maintaining a machine, there may be some easy adjustments to improve your system. Properly conditioned air can go a long way; please consider these useful tips.

Filtration

1) Particulate filters should always be installed for every machine or application.

Why it matters: Even if proper filtration is installed after the air compressor, contamination or condensation can potentially build up in the air lines. 40-micron elements are very common for industrial applications, while 5-micron ensures cleaner air without reducing flow. One tiny dirt spec may cause a valve to stick or scratch a cylinder wall. A filter helps protect your system.

2) Install coalescers downstream to the particulate filter to reduce rapid build-up.

Why it matters: Air compressors contain oil to lubricate the internal pistons. Coalescing filters remove oil and moisture with 0.1 or 0.01-micron elements.

Particulate Filter -> Coalescing Filter -> Regulator

3) Absorber filters eliminate odors in the air line. Only consider an absorber if the application requires it.

Why it matters: Odors can be irritating or distracting to employees.

4) Air is spun in the filter bowl to separate water from the air. Water then collects in the bowl.

Why it matters:

- Manual drains are unscrewed by hand to drain. Do not drain under pressure.
- Automatic drains have a float device to release water once it has risen to a set level. These have barbed fittings to connect to a tube for directing water into a bucket or floor drain. These operate under system pressure.
- Semi-Auto drains open when depressurized. These also have barbed fittings for directing water appropriately.





Regulation

- 1) **The air receiver stores compressed air and shop air is most commonly compressed between 90-120 PSI.**

Why it matters: If a system is sized to operate on 90 PSI pressure, the receiver will deplete significantly faster than that if operating at lower pressures. Rapid air depletion causes the air compressor to frequently turn on and consume more electricity. This results in pressure fluctuation as well.

- 2) **Regulators and filters used to be separate units but are now available in filter/regulator (F/R) combinations.**

Why it matters: The F/R combinations can decrease footprint. Consider using a F/R combo for each plant section or machine to provide regulated, clean air.

- 3) **There are different types of regulators, relieving and non-relieving regulators.**

Why it matters: Relieving style regulators vent downstream pressure spikes (above regulated pressure) and are the most common. Non-relieving regulators do not vent downstream pressure for specific applications.



Lubrication

- 1) **Lubricators are being used much less frequently than ever before.** Their purpose is misting the air with lubricant to reduce friction on cylinder and valve seals.

Why it matters: Parker seals are packed with a “lubed for life” grease, which do not require additional lubricant. Grease will need to be reapplied when seals are replaced.

- 2) **If you are currently using a lubricator, then you will need to continue to use one unless all seals are changed out.**

Why it matters: The petroleum based lubricant washes away this grease.

- 3) **So, when do you use a lubricator?**

Very high-speed cylinder cycle rates may require an injection lubricator close to its ports. Water contamination will wash away grease, requiring lubricant.



There are many simple adjustments or additions you can make to protect your system and reduce power consumption.



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- Part Lookup shows inventory, current replacements for obsolete products, and repair kits.
- CAD files are available in many different formats.
- Online Calculators help with part sizing and identifying required flow rates.
- Cross Reference Tool to provide drop-in options and compare Parker to competition.
- Videos show valve assembly, cylinder service, and more.

