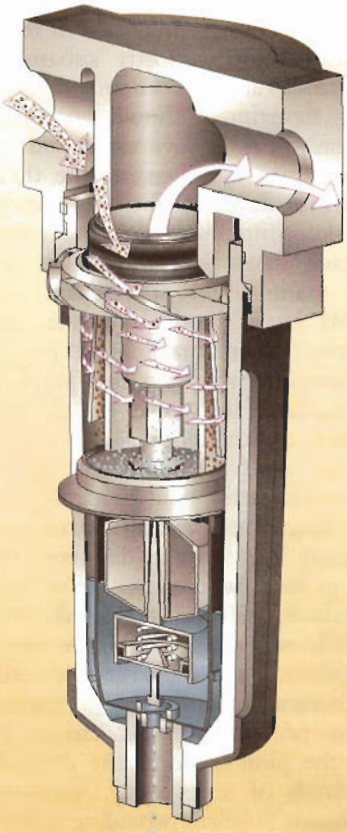
Prepare to be productive

Air preparation can keep your shop running smoothly.



Filters keep air through equipment clean and dry.

Without a clean, consistent supply of air, pneumatic components are prone to unnecessary wear and tear, and eventually failure. But all too often, shop air is dirty, underlubricated, and provides inconsistent pressure. As any engineer knows, when even a single assembly station goes down, the entire manufacturing plant can be disrupted. Manufacturers are constantly looking for ways to improve the reliability of their assembly lines, and one important aspect of this is air preparation.

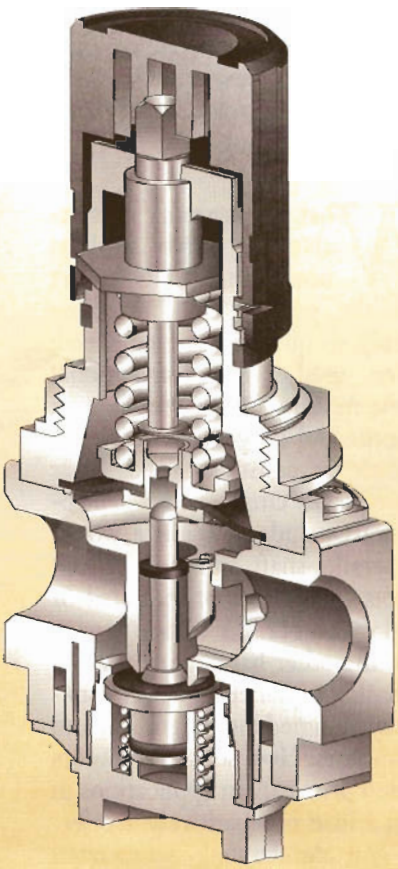
Moisture and debris

While many shops may implement some degree of filtering throughout the plant, the micron rating may not be high enough for some of the more sensitive components. Also, moisture can build up in your lines, leading to

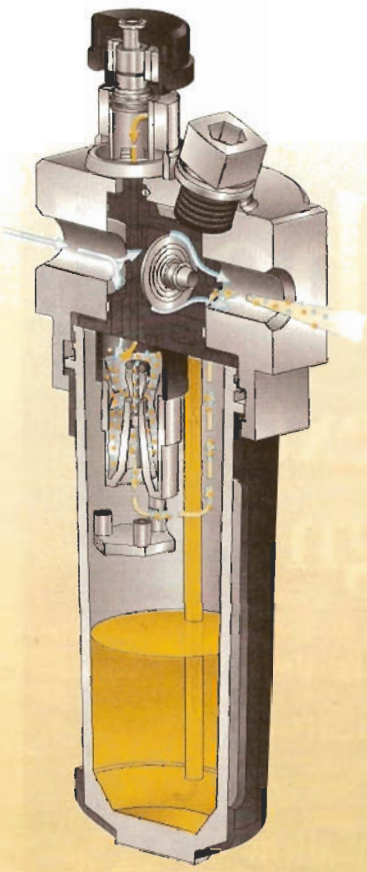
A case study

Bimba, a manufacturer of FRLs, recently helped one of its customers outfit an assembly line with a localized FRL system. The Bimba solution starts with a 50-µm filter and mist-air lubricator. The filtered and lubricated air is then fed into a 2:1 booster. The booster device ensures that variances in shop air pressure do not compromise tool functionality. This boosted air pressure is then stored in a 30-gallon tank or reservoir. The size of the reservoir provides a significant local air supply to allow for multiple tools to run simultaneously for short periods and gives the booster time to relax, increasing its functional life. The stored air then runs through a second lubricator and regulator to ensure that consistent pressure is supplied before finally being linked to multiple tools at a valve manifold station.

With regular observation and maintenance, any FRL system becomes an asset to manufacturing companies worldwide. The air-prep components promote continuous and smooth operation of assembly stations and ensure the maintenance of excellent quality manufacturing.



Regulators maintain even pressure for consistent power.



Lubrication minimizes internal pneumatic component friction.

internal equipment corrosion over time.

Available pressure

Available shop air pressure can vary greatly, especially during periods of peak demand. For example, inconsistent pressure can cause quality problems by missing a rated torque value at assembly.

Lubrication

The last thing you want in your plant is metal on metal contact. In the absence of lubrication, this friction can dramatically reduce the life of your pneumatic equipment.

Total solution

A complete air preparation system represents a multi-step process and generally requires three components — filter, regulator, and lubricator, or *FRL*. Filters remove debris and moisture and are available in a variety of different micron ratings. Regulators enable operators to accurately adjust the available pressure for consistency. Lubricators add a very fine mist of oil to the air to extend the life of your equipment.

Today, many manufacturing companies have realized the benefits of integrating localized air preparation systems throughout their shops. By placing these systems right at selected workstations, manufacturers can ensure proper pneumatic supply and minimum pressure loss related to plumbing.

To view animations of how filters, regulators, and lubricators work, visit www.bimba.com/FRL.