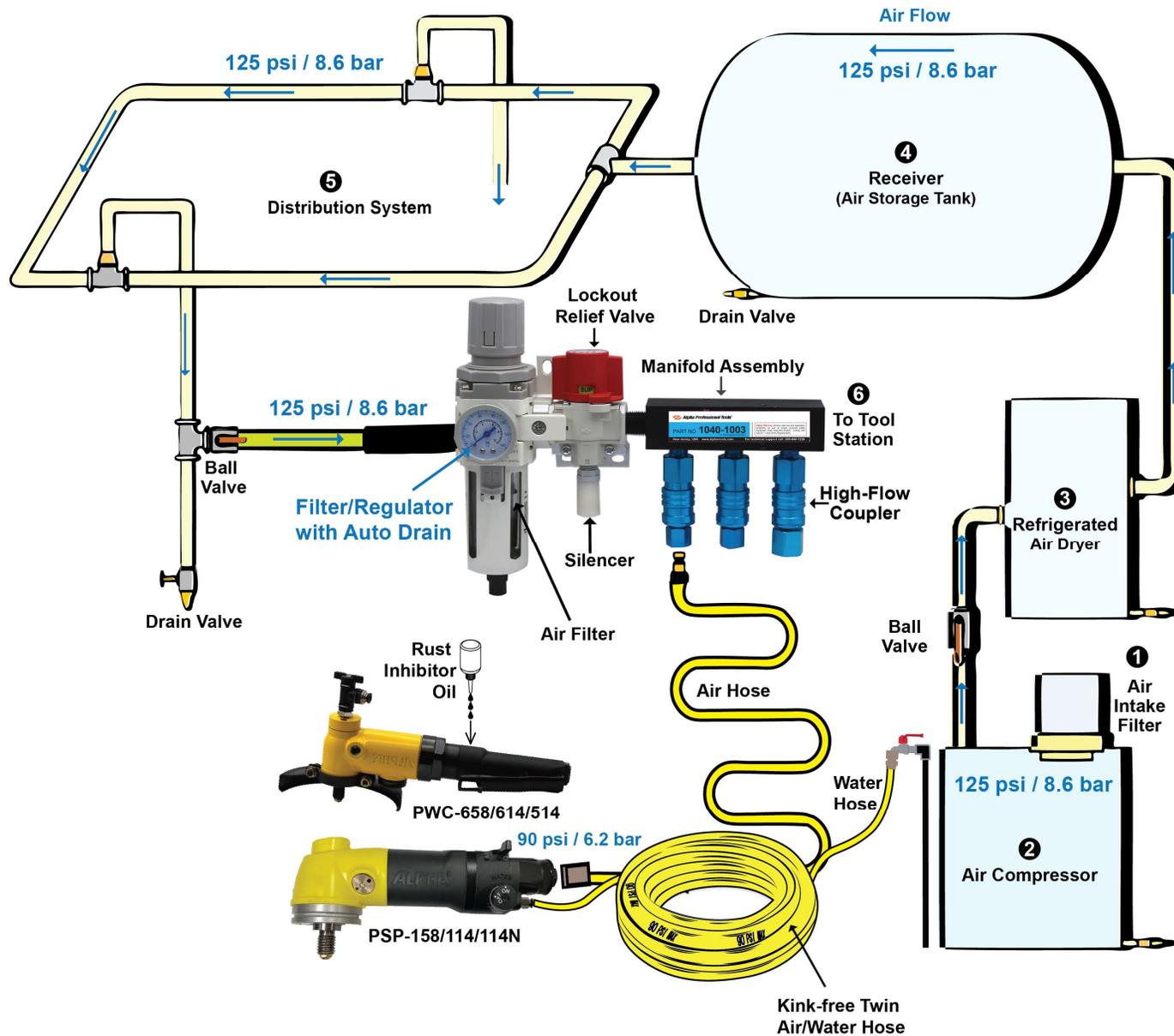


General Overview of Compressed Air System



Determine Your needs

▶ **Usage:**

Identify what you'll be using the air compressor for. Different tools require different levels of air pressure and flow rate.

▶ **Frequency:**

Consider how often and how long you'll use the compressor. Continuous use requires a more robust model.

Understand Key Specifications

▶ **PSI (Pounds per Square Inch):**

This measures the pressure the compressor can deliver. Ensure the PSI matches the requirements of your tools. Bar or Pa or kPa

1 Bar = 100,000 Pascals (Pa) or 6.895 kilopascals

(kPa)

1 Bar = PSI/114.504 90 PSI = 6.2 Bar

▶ **CFM (Cubic Feet per Minute):**

This indicates the air flow rate. Higher CFM is needed for tools that require more air. Cubic Meters per minute (m³/min.) 15 CFM = 425 liters/min. 21 CFM = 595 liters/min. 33 CFM = 934 liters/min.

▶ **Tank Size:**

Larger tanks are better for continuous use, while smaller tanks are suitable for intermittent use.

Types of Air Compressors

Piston Compressors:
Common for home use, available in single-stage (light tasks) and two-stage (heavier tasks) models



Rotary Screw Compressors:
Ideal for industrial use, known for efficiency and durability



Scroll Compressors:
Compact and quiet, suitable for HVAC systems and refrigeration



Why is Air Dryer needed?

1. Preventing Corrosion

- ▶ **Moisture Removal:** Compressed air naturally contains moisture, which can lead to rust and corrosion in pipes, tanks, and valves.
 - *An air dryer removes this moisture, protecting your system from damage.*

2. Improving Air Quality

- ▶ **Clean Air:** Moisture can carry contaminants like dust and oil, which can affect the quality of the air and the performance of your tools
 - *Dry air ensures cleaner, more efficient operation.*

Why is Air Dryer needed? (cont'd)

3. Extending Equipment Lifespan

- ▶ **Reduced Wear and Tear:** Moisture accelerates wear and tear on components, leading to more frequent repairs and replacements
 - *Dry air helps extend the lifespan of your equipment.*

4. Preventing Product Contamination

- ▶ **Industries:** In industries like food and beverage, pharmaceuticals, and painting, moisture can contaminate products
 - *An air dryer ensures that the air used in these processes is dry and clean.*

A blue industrial structure, possibly a reserve tank or part of a compressed air system, is visible on the left side of the slide. It features a large horizontal pipe and a vertical support structure with railings.

Why is Reserve Tank Needed?

1. Meeting Peak Demand

Extra Storage: The primary role of a reserve tank is to store compressed air, ensuring that there is enough supply to meet peak demand. This helps maintain consistent air pressure even during high usage periods.

2. Pressure Stabilization

Constant Pressure: Air receiver tanks help stabilize the pressure in the system by reducing pulsations from the compressor. This ensures a steady, uniform flow of compressed air, which is essential for the efficient operation of pneumatic tools and equipment.

3. Reducing Wear and Tear

Minimizing Cycles: By providing a buffer, the reserve tank reduces the number of cycles the compressor needs to go through. This minimizes wear and tear on the compressor, extending its lifespan and reducing maintenance costs.

Why is Reserve Tank Needed? (cont'd)

4. Moisture Removal

Condensation Collection: As air cools in the tank, moisture condenses and can be removed through drains. This helps prevent water from entering the air system, which can cause corrosion and damage to tools and equipment

5. Energy Efficiency

Energy Savings: A reserve tank can improve the overall efficiency of the compressed air system by reducing the frequency of compressor starts and stops. This leads to energy savings and lower operational costs

6. Supporting High-Flow Applications

Supplementing Air Supply: For applications that require a high flow rate, the reserve tank can provide the necessary air supply without overloading the compressor

Pipe Size

- ▶ **CFM and Length:**
The size of the pipe depends on the airflow (CFM) and the length of the pipe. Larger pipes reduce pressure drop over long distances
- ▶ **Pressure Drop:**
Aim for a pressure drop of no more than 3 PSI between the compressor and the point of use

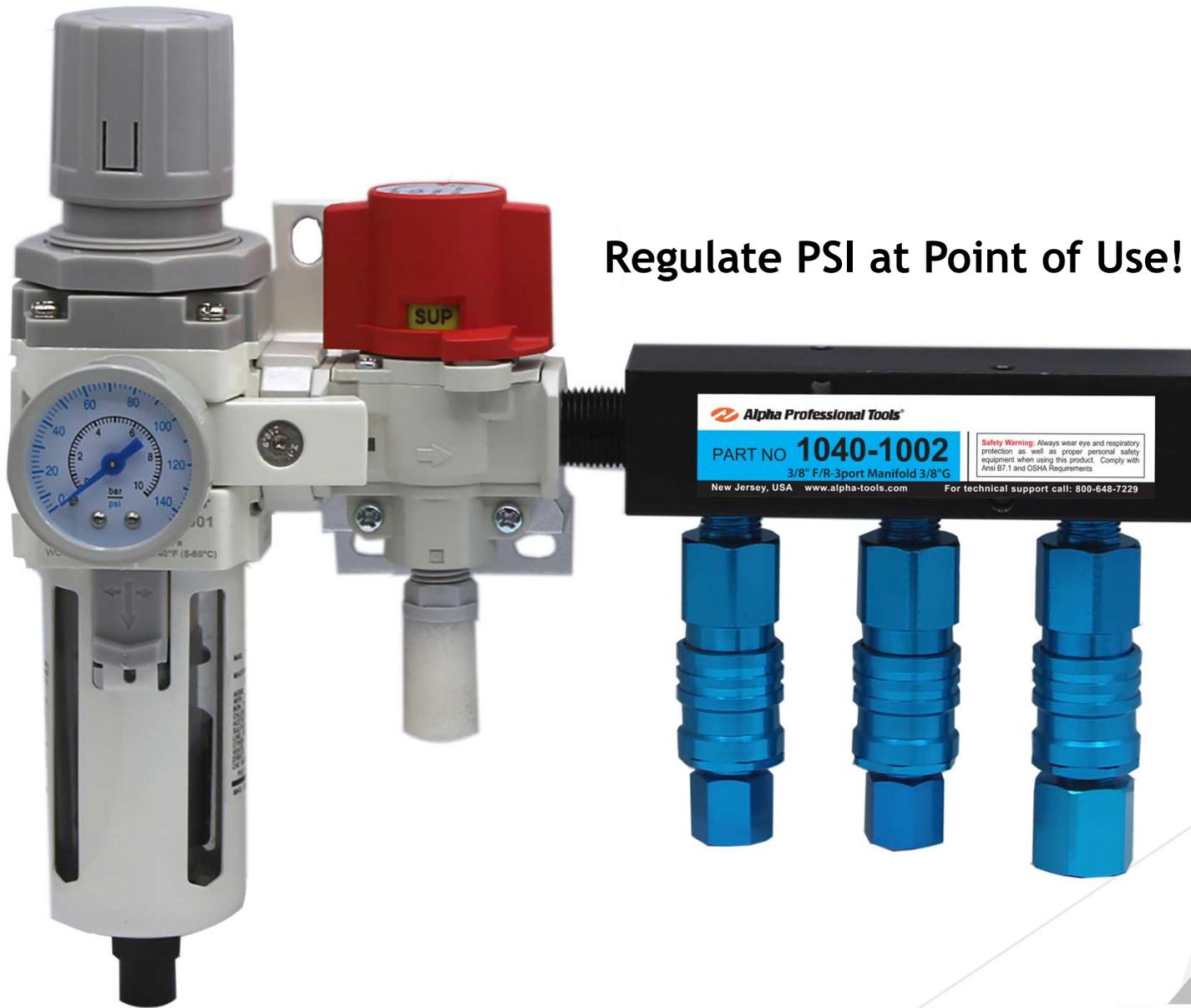
Pipe Material

- ▶ **PVC:** Lightweight and easy to install, but not suitable for high-pressure systems
- ▶ **Copper:** Durable and corrosion-resistant, ideal for high-pressure applications
- ▶ **Aluminum:** Lightweight, corrosion-resistant, and easy to install
- ▶ **Steel:** Strong and durable, but prone to rust and requires maintenance
- ▶ **Stainless Steel:** Highly durable and corrosion-resistant, suitable for clean environments

Installation Considerations

- ▶ **Minimize Bends and Couplings:**
Reducing bends and couplings minimizes pressure drop
- ▶ **Proper Sealing:**
Ensure all joints and connections are properly sealed to prevent leak

Filter / Regulator Manifold System





Why is Filter/Regulator is needed?

1. Cleaner Air

Contaminant Removal: Filters remove dust, oil, and moisture from compressed air, ensuring that your air tools operate efficiently without wear and tear caused by particulates

2. Consistent Air Pressure

Pressure Regulation: Regulators control the air pressure output to a predefined level, preventing over-pressurization that can damage tools and cause inefficient operation

3. Extended Equipment Life

Protection: Cleaner air and regulated pressure contribute to the long-term durability of air-powered tools and equipment



Why is Filter/Regulator is needed? (cont'd)

4. Energy Efficiency

Optimal Operation: Regulating the pressure ensures that your system operates at optimal energy levels, saving on power consumption and reducing costs

5. Safety

Preventing Damage: By maintaining appropriate pressure levels, regulators prevent tools from overheating or becoming damaged by excessive pressure

Always wear eye and respiratory protection when using this product. Comply with OSHA Requirements.

For technical support call: 800-648-7229

Maintenance

(Adding Rust Inhibitor Oil)

Oil Port for Easy Lubrication



PSP-158 / 114 / 114N

