

Air Compressors

Trow and Holden Co.'s

Pneumatic Tools require

approximately 3 cu/ft to 8

cu/ft of compressed air at

90-100 psi depending on

the size of the air tool.

Please keep in mind that

you will probably not be

running your pneumatic

tool at full power all of the

time. This means that the

duty-cycle required of the

compressor will likely not

be 100% but considerably

less under most uses.

Also, please consider that

you may want to use

compressed air to power

other types of air tools,

such as grinders, drills or

polishers. These rotary

air tools generally require

more air than a carving

tool, so take these other

possible air requirements

into consideration when

selecting a compressor,

Why do you need an air compressor?

An air compressor is a versatile tool that can perform a variety of tasks when attached to air tools, also known as pneumatic tools. Air tools have several advantages over electric power tools: they have more torque and power than conventional power tools, more durability because of fewer moving parts, and they're easy to use.

You can use a compressor with air tools for maintenance and craft projects around the house, repair jobs in the garage, construction projects on the job site, or industrial projects in the shop. Using pneumatic nail guns, hammers, spray guns, wrenches, drills, sprayers, sanders, saws, tire inflators, and many other air tools, you can pump up tires, paint a fence, build a deck, repair your truck or car, roof your home, or remodel your house.

Compressors are available in a wide array of sizes and styles. Choosing the one that's right for you is really a matter of how it will be used and personal preference. Ask yourself the following before going any further:

- Where will you be using your compressor?
- Is there a ready electrical supply?
- Will you be working in confined or unventilated areas?
- Which tools will you want your compressor to operate?

How to select the right air compressor for the job

The type of air compressor you need will depend on the above factors, especially which tools you will want your compressor to operate. Most air tools have specific requirements for volume and pressure, while compressors are rated on the following four factors:

PSI – Pounds per Square Inch: This is the measure of air pressure delivered by your compressor. The higher the PSI, the further the air can be compressed—meaning a larger volume of compressed air can be stored in the tank.

CFM – Cubic Feet per Minute: This is the volume of air that your compressor can pump in one minute at a specific working pressure. High CFM ratings mean a compressor can provide more air – making higher CFM units more practical for larger applications.

HP – Horsepower: This is the unit of measurement for the power your compressor's motor produces. Higher horsepower engines produce greater PSI and are capable of carrying a heavier workload.

Tank Size: Units with more powerful motors and larger tanks (measured in gallons) can generate higher levels of PSI for longer amounts of time, providing greater power to your air tools.

To choose a compressor that will meet the requirements for your tools to function properly, use this formula. Select the tool that requires the highest volume cubic feet per minute (CFM) at the highest pounds per square inch (PSI). Then add 50% to the required CRM as a safety margin. For example, if a tool requires 3 CFM at 90 psi, choose a compressor that provides at a minimum 4.5 CRM at 90 psi.

Once you know the volume and pressure requirements you need, your choices can then be considered between these main options:

1. A **twin-stack style** provides maximum portability and is ideal for roofing, remodeling, car maintenance, and clean-up, with a low-profile for added stability on uneven surfaces. Most of these are electric powered, so you can operate them indoors or out.

2. A **pancake style** is lightweight and portable and great for locations where you might be concerned about your space limitations. It is ideal for building, inflation, crafts, and outdoor clean-up. Most of these are electric powered, so you can operate them indoors or out.

3. A **wheelbarrow style** provides easy maneuvering and mobility for building and maintenance jobsites with wheels. Most of these are gasoline powered, so you will only want to operate them in well-ventilated areas and where noise is not a problem.

In general, casual or moderate-level work such as tire inflation, nailing, and stapling projects, or craft projects such as upholstery or air brushing are the type of tasks that require a highly-portable compressor that is easy to carry around the house or the garage. These types of residential projects generally only require compressors with tanks that are less than 5 gallons.

For more heavy-duty projects like auto repair, removing lug nuts, or remodeling projects that involve sanding, drilling, or using spray guns, look for a compressor with a tank over 5 gallons.

Features that make a Difference

- Well-protected and conveniently located **control panel and gauges** provide easy access.
- A **heavy-duty electric motor** w/ manual reset protects against overload.
- **Electric start systems** with built-in air pressure release create less chance for tripping circuits upon start-up.
- **Two air outlets** enable dual-tool operation.
- **Ball-valve tank drains** allow easy draining with a simple quarter turn.
- **Direct-drive, oil-lubricated pump with cast-iron cylinder** delivers maximum life and performance.
- **Belt-drive, oil-lubricated pump with cast-iron cylinder** operates at lower RPM, extending life and reducing noise.
- **Idle control** saves fuel by idling engine when air tanks reach maximum operating pressure.

- **Pneumatic tires** provide easy maneuvering around the home or jobsite.
- **Oversized 6-gallon tank** stores more air, so pump cycles less frequently

Tips for safe air compressor operation

There are five basic steps to operating an air compressor:

Step 1: Check the oil level to make sure the compressor is properly lubricated.

Step 2: For electric motors, plug the unit into the correct grounded, 3-pronged outlet. Turn the pressure switch on and close the tank drain valve. For gasoline powered engines, start the motor and turn the pressure switch on and close the tank drain valve.

Step 3: Adjust the pressure for the tool you will be using and the job you will be doing. Never exceed recommended pressure for the tool or the job.

Step 4: When finished, shut off the motor, unplug the unit, and turn off the regulator valve. Never twist valves with pliers. Just tighten them until the air stops leaking. Then bleed the air out of the hose, remove the tool and open the regulator to bleed the air in the tank. If you have a quick connect, you must either remove the hose to bleed off the air from the tank or bleed the air through the drain cocks.

Step 5: After storing the hose, open the drain cock to release any accumulated moisture. Leave it open until the next time the compressor is used.

Here are additional maintenance and safety tips to consider when operating air compressors:

- Always read the manufacturer's operator manual and carefully follow all safety and operation rules.
- Always wear safety glasses and hearing protection when using a compressor.
- Check the compressor frequently for any visible problems.
- Ensure the pressure safety-valve ring is properly operating.
- Use regulated, compressed air and never use more air pressure than is necessary.
- Don't forget the air filter. All air compressors have an air filter to keep the dirt and dust out of the compressor pump. If you run the compressor in a dusty environment, check and clean the air filter often.
- Moisture can condense in a unit, so it is extremely important to drain the tank after each day's use. If left in the tank, moisture could cause rust and weaken the tank.
- Energy-efficient motors can cut energy use by at least 12%.

The most energy-efficient motors are equipped with controllers and variable speed drives to help the motors match output with the energy necessary for the task.

Visit your local air compressor dealer

A

great resource for finding the right unit is your local power equipment dealer who handles air compressors.

- Remember that an air compressor should be able to safely power the tools you will use, so bring along a list of those tools to share with the dealer.
- Be sure to start the unit and try the controls. Don't hesitate to ask the dealer if he or she has a model that can be "test driven" onsite or at home before making a final buying decision.



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