An Aid to Choosing a Air Compressor

The most common source of air for propelling the airbrush is the air compressor. There are two basic types: the diaphragm compressor and the piston-operated compressor.

Designed primarily to propel one airbrush at a time, the diaphragm compressor is the least expensive. There are both small and large diaphragm compressors that develop various air pressures. The airbrush, as a rule of thumb, uses ½ cubic foot of air per minute (cfm) at 25 pounds per square inch (psi). Most diaphragm compressors produce this required air pressure, but the larger sizes also emit more noise. The way the air is compressed can produce a pulsation in the air sprayed, which is not beneficial to airbrush technique because most artists seek a smooth and consistent spray.

Another possible drawback of diaphragm compressors is that with consistent use they tend to overheat, so they must be shut off periodically. However, some models have automatic shutoff switches included that are air operated and therefore the compressor runs only when airbrushing. Naturally, the convenience of an automatic shut-off adds a bit more to the cost of this compressor. An additional drawback may be the noise level. As stated, larger compressors produce more noise, which may pose a distraction to the user.

Of all compressors, the one most often used in airbrush technique is the piston compressor. It comes in a variety of sizes from small to very large. The larger compressors usually provide higher working air pressures and develop higher cfm. Small piston compressors can be utilized with one or two airbrushes working simultaneously, whereas large ones (5 and 10 HP) can be used to propel multiple airbrushes such as in a classroom setting with large spray equipment that requires a higher cfm.

Most piston compressors come with a storage tank. The air is compressed in the compressor, enters the storage tank and then travels to the airbrush. This guarantees a smooth, consistent source of air that can be regulated to the needs of the user. Within the family of piston compressors there are those that are maintenance free or oil immersed. Oil goes into the crankcase to prevent the piston from seizing up during operation.

Both types of compressors, maintenance free and oil immersed, are relatively quiet. But the oil immersed model usually has the lowest noise level, and these are sometimes called "silent" compressors. Because the compressor contains oil, it tends to infiltrate the compressed air. Therefore an oil trap is required to capture the oil before the air enters the airbrush. In addition, all compressors, whether diaphragm or piston operated, develop condensation (water droplets) when hot air cools. This, too, must be removed from the air before spraying, so a moisture trap is also needed.

When selecting a compressor, consider the application. If you airbrush only occasionally, then a small, inexpensive diaphragm compressor will suffice. This would apply to hobby painting, cake/pastry decoration, watercolor or gouache painting on paper surfaces, model painting, etc. Conversely, a custom automotive painter working on automobiles and motorcycles and using both airbrushes and spray guns will require a large piston-operated compressor. This also applies to artists working with acrylics on canvas, ceramists or those working with materials that require a high psi for proper spraying, e.g., lacquers, epoxy paints, and enamels.

In today's airbrush world, the applications are limitless. The size of the work can be extremely small or gigantic. Any type of liquefied material can be airbrushed as long as it can be reduced to a sprayable consistency. But for the airbrush to work properly, you must have the appropriate air compressor. A variety of compressors are available from Iwata-Medea (www.iwata-medea.com), Silentaire Technology (www.silentaire.com) and Sparmax (www.sparmax.com.tw). Visit their Web sites and see your retailer for further information.