

## How to Select a Compressed Air Dryer

Water vapor is a major contaminant in compressed air systems. Additional cooling of the compressed air as it is distributed throughout the plant air causes the water vapor to condense into water. This condensed water will rust and corrode system piping and damage downstream components requiring dry air. This results in lost production, plant downtime, increased maintenance costs, and reduced air system efficiency. Consider the following guidelines when selecting a compressed air dryer.

### **ISO CLASS/PRESSURE DEW POINT REQUIREMENT**

Choose a dew point temperature below the lowest ambient temperature your compressed air system will be exposed to. Consider air lines located in air conditioned or unheated areas running underground or between buildings. Typical applications can be satisfied with a refrigerated dryer. More critical applications require a desiccant air dryer.

### **MAX AIR COMPRESSOR HP/AIR COMPRESSOR FLOW IN SCFM**

This will give the starting flow size for the dryer selection. If you do not have this information, then the approximation of the compressor HP times 4 should get you close to the flow rate.

### **OPERATING PRESSURE**

Dryers are rated at 100 psig. If your pressure increases, the moisture load is decreased, reducing the strain on the refrigeration system. As a rule of thumb, an increase in capacity by approximately 5% for every 25 psig increase from 100 psig can be estimated. For every 25 psig decrease, your capacity is reduced by 10%.

### **COMPRESSED AIR INLET AND AMBIENT TEMPERATURE**

During hot summer months, higher ambient temperatures result in higher inlet temperatures and can result in overheating a refrigerated dryer. If your ambient temperature is over 100°F, this may exceed the maximum inlet temperature of dryer. Therefore, you may need to go to the next size dryer or select a high temperature dryer.

### **FILTRATION**

Clean, oil-free, compressed air is necessary for most applications. Be sure you have particulate pre-filters and oil removal after-filters installed to provide the best quality air possible.