

Moisture (Water Vapor) Test Results

Moisture (Water Vapor) Test Results Greater Than 3900 ppm or Ambient Pressure Dew Point Greater Than 22 Degrees F Discussion

When moisture (water vapor) test results on the analytical report show values of >3900 ppm or >22° F this means that the air being tested has more moisture than the TRI Air Testing methodology is able to measure. Typically, this means that the compressed air system has no functioning equipment for lowering the water vapor level. The air in the compressed air system lines when exiting the compressor is probably saturated with water vapor and liquid water will be condensing. The condensed liquid water will then be exhausted to the room through a liquid collection/purge system. The compressed air is still saturated with water vapor and when cooled, such as entering an air-conditioned building, more liquid water will condense in the piping system. The concerns of high moisture as water vapor and especially as liquid water are that they can promote corrosion and microbiological growth in the piping system.

There are three main types of compressed air system dryer methods for lowering the amount of water vapor in the air; a refrigerated dryer, a desiccant dryer or a membrane dryer. A refrigerated dryer is capable drying the air to at least -5° F ambient pressure dew point or 973 ppm. A desiccant dryer is capable of drying the air to at least -50 ° F ambient pressure dew point or 67 ppm. A membrane dryer is capable of drying the air to at least -40 ° F ambient pressure dew point or 127 ppm

The compressed air/gas systems used in manufacturing processes should be evaluated by a competent technical individual to determine the appropriate, current good manufacturing practices, cGMP, to protect the safety of the employees and the integrity of the products.

