



With summer fast approaching and humidity levels rising, **many Australian manufacturing plants will begin experiencing problems resulting from increased dew point levels** within their compressed air systems.

The more water removed, the higher the cost of drying. However, **if too much water is permitted to remain in the compressed air supply, the price is paid** elsewhere.

Uncontrolled dew point levels within compressed air systems can cause:

- Corrosion in the pipes
- Reduced lifespan of pneumatic parts
- Failures in actuators
- Contamination of compressed air system in general
- Unscheduled production stops
- Incalculable additional production costs

Food, Medical and pharmaceutical processes commonly treat water vapor and other gases as contaminants.

Properly sized air dryers, reliable condensate drainage and dew point measurement are key considerations to help troubleshoot and avoid costly dew point problems.

Refrigerant dryers are commonly used to reduce the moisture content of compressed air. In principle the compressed air is cooled in a heat exchanger to a temperature just above the freezing point of water, causing much of the moisture in the air to condense out to liquid, which can then be drained off. Efficient operation of the dryer is dependent on maintaining good temperature control in the heat exchanger. Refrigerant dryers are normally equipped with temperature sensing devices to monitor the coldest air temperature.

This measurement will give a first indication of the operation of the dryer, but does not guarantee the quality of the air at the dryer output. The only way to be certain that the dryer is functioning correctly is to install dew point measurement directly after the outlet.

Dew point measurement acts as a kind of insurance system, monitoring the dryer performance and activating alarms whenever an issue occurs. **Permanent Dew Point measurement allows:**

- Fast responses to failures in compressed air drying
- Increased lifespan of compressed air system and its components
- Verification for compliance with relevant requirements/accreditation
- Information to assess methods to improve air quality relating to dew point
- Minimising of risk related to loss of product, plant down time, product recalls or consumer health and safety issues.

Condensate drains are possibly the least glamorous and most ignored component of a compressed air system yet are just as important as any other component of a compressed air system.

No matter how much money is spent on aftercoolers, filters, receivers and dryers if the condensate is not reliably drained then dew point levels can remain high. Condensate can also be aggressive (pH value) and carry harmful substances which can bring additional problems.

Improving condensate drainage can also assist in improved system efficiency. A no-waste (zero airloss) drain provides air savings that alone commonly provide paybacks of less than one year. Drains unable to remove all condensate are also likely to cause many additional hidden and up front costs.

Troubleshooting dew point issues within any system requires a systems approach which may include looking at a complex range of problems; many will be prevented through careful dryer and condensate drainage selection.

Considering the potential impact and costs through high dew point, **measurement of dew point in compressed air systems is often very easy to justify.**

Please see the recent case study on Teys Australias Wagga Wagga site: Problematic condensate issues. < [link to study](#)>