

## LECTURE 35

### COOLING AND DRYING OF COMPRESSED AIR

#### FREQUENTLY ASKED QUESTIONS

1. List four qualities required for a compressed air

**Answer:**

- a) Compressed air must be clean
- b) Compressor air must be dry
- c) Conditioning air must be at low temperature
- d) Compressed air must be free from dust and other contaminations

2. List three function of after cooler.

**Answer**

- i) After coolers control the amount of water vapour in a compressed air system by condensing the water vapour into liquid form. Pr
- ii) protect downstream equipment from excessive heat
- iii) Reduce the risk of fire.

3. Why after cooler is required in compressed air systems.

**Answer**

The compressed air discharged from an air compressor is hot . Compressed air at these temperatures contains large quantities of water in vapor form. As the compressed air cools this water vapor condenses into a liquid form. Moisture affect the performance of the pneumatic systems. Therefore after coolers are required.

4. What is the difference between an after cooler and a chiller air dryer

**Answer:**

An after cooler is installed in the airline immediately downstream of the compressor. Compressor do not remove the moisture. Thus, an after cooler is essential to reduce the air temperature to convenient levels and to act as a first stage in removal of moisture prior to entering an air dryer. After cooler remove only about 80% of the moisture from the air leaving the compressor. An air dryer removes all moisture by lowering the temperature of the pressurized air to a dew point of 10 °C

5. What is meant by the term dew point?

**Answer:**

The dew point is the temperature at which air is saturated and thus the relative humidity is 100%