AIR ACCESSORIES

Filters

Filtration is required to remove contaminants from the compressed air. Filters may be fitted before and after Air Dryers, and also at the point of use.

Drain Valves - Condensate Management

Water vapour is always present in the air entering a compressor. With a decrease in air temperature and/or an increase in pressure, this vapour will condense. This condensate is often contaminated with oil and solid particles. All condensate must be removed from filters, dryers and air receivers and disposed off.

Condensate is collected by installing drain traps (also known as drain valves). These are attached to components where water will condense, such as Air Receivers, Dryers and Filters.

Refrigerated Air Dryers

Air discharged by any air compressor always contains water vapour, which also depends on the ambient temperature and the relative humidity. When air is compressed, the volume decreases proportionally. This results in condensate formation. Condensate causes corrosion in compressed air pipe line. Compressed air driers are used to separate the condensates. Refrigerated Air Dryer removes moisture from compressed air to the desired dew point temperature.

The performance of a dryer is quoted in terms of ‘pressure dew point’, which is the temperature at which water vapour will start to condense out of the air. For example, a dew point of 4ºC at 7 bar (g) (700kPa (g)) means that no water will condense from the air until it goes below a temperature of 4ºC.

Working principle:

The saturated compressed air enters in air-to-air heat exchanger. Here the incoming hot air is cooled by the outgoing cold air. The pre-cooled incoming air enters in the air-to-refrigerant heat exchanger further reducing the air temperature to specified dew point 2ºC to 4 ºC. The air leaving this evaporator is directed to the cyclone separators and water vapour condensate liquid droplets gets removed automatically by Automatic drain valve.