

Refrigeration Air Dryers

ADQ

Capacity:
21-4200 m³/h



Water Contamination in Compressed Air

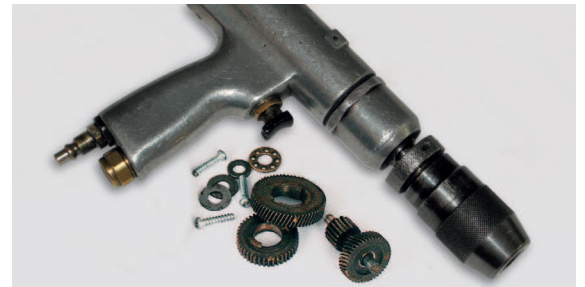
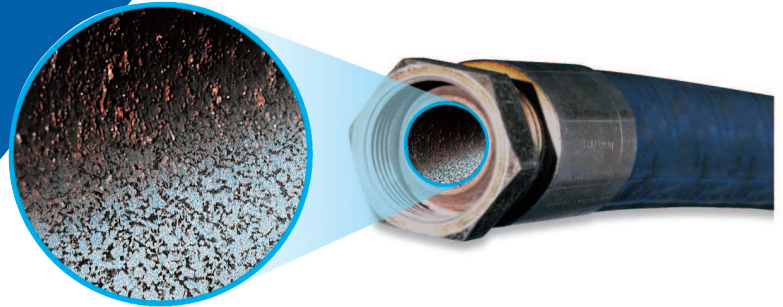
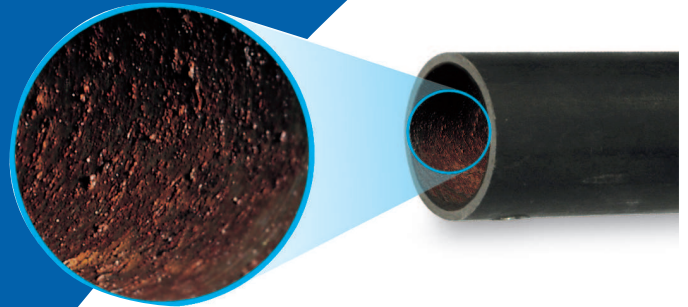
The water contained in a compressed air system will vary according to ambient conditions, i.e. temperature and humidity. After compression the water vapour will travel into the system in exactly the same way as the compressed air itself.

A basic compressed air system will include an aftercooler which will allow the removal of some of the condensate, despite this however a large quantity of water will enter the distribution system.

Following entry into the distribution system, the compressed air will undergo further cooling and expansion and as a result condensate will collect in the distribution pipe work and ancillary devices.

Over time the condensate in the pipe work may cause corrosion and subsequently failure and leaks. Furthermore the condensate present in all of the downstream pneumatic equipment will cause serious damage resulting in breakdowns, additional maintenance and increased production costs. In applications where compressed air is in contact with the final product, damage may occur to the product itself increasing costs further.

The ADQ refrigerated compressed air dryer employs refrigeration technology in order to cool the compressed air to the optimum temperature in order to remove condensate (dewpoint) and is designed to remove up to 99 % of the condensate present.



THE DANGERS AND RISKS OF WATER CONTAMINATION

- Corrosion to the distribution system:

the water that collects in the system over time will cause corrosion and consequently leaks, increasing your compressed air consumption and therefore energy costs. Furthermore the scale formed inside the pipe work distribution system as a result of corrosion will increase pressure losses resulting in a further increase in energy and operating costs.

- Malfunction to pneumatically operated machinery and devices:

The contamination in all of the pneumatic equipment will result in lower productivity, poor reliability, increased maintenance and down time resulting in an overall reduction in manufacturing efficiency.

- Spoilt products:

The contamination in compressed air will have a direct influence on the quality of the manufactured goods. Imperfections caused by poor finishing when paint spraying or the presence of contamination in packaging, electronic or pharmaceutical applications can have a dramatic impact on product quality and performance.

ADQ dryers Air purity

For many companies in today's competitive global market, the treatment of compressed air is not an option, but a necessity to reduce operating costs and increase production efficiency.

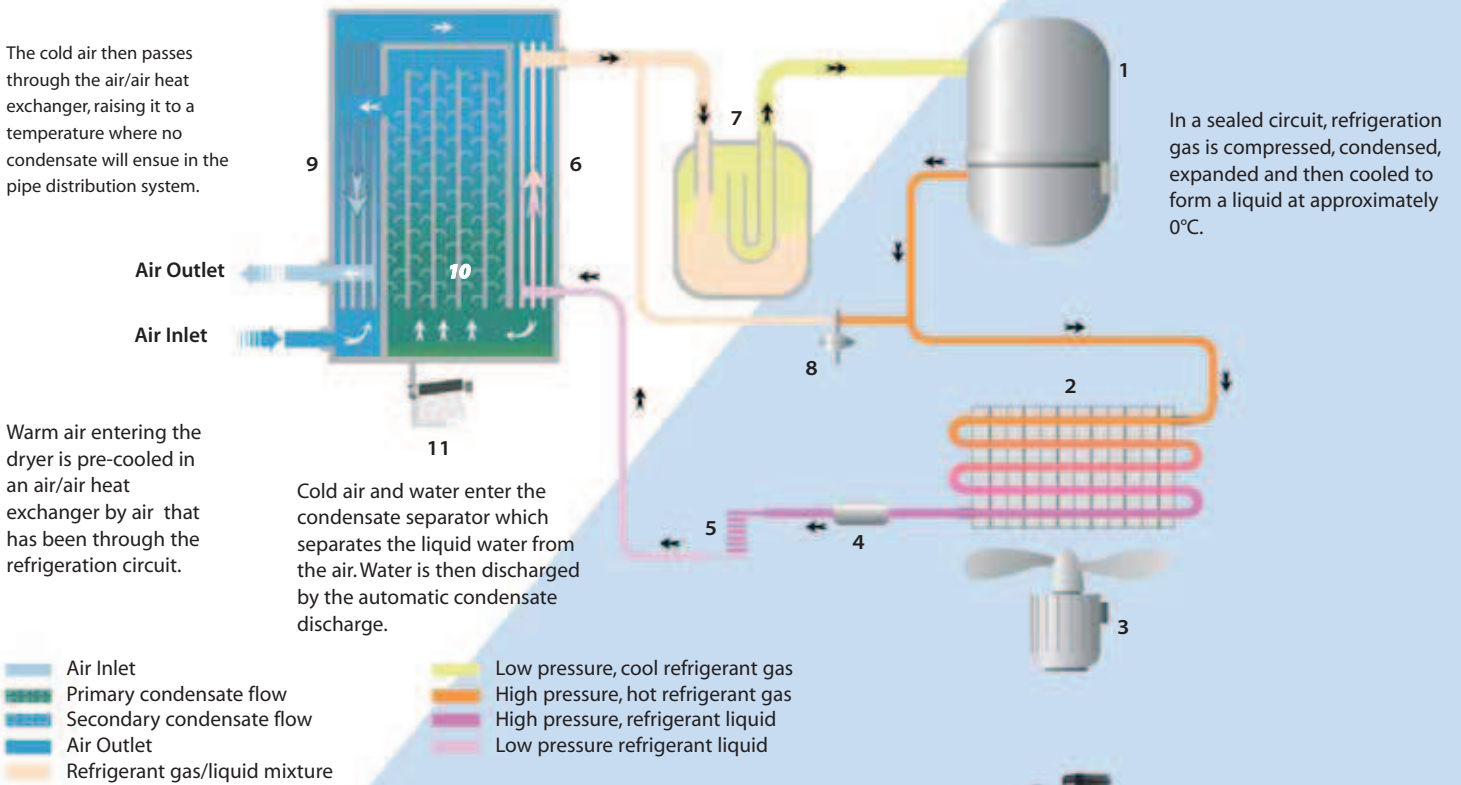
Being an efficient and simple technology, refrigeration dryers represent the preferred solution for the majority of these applications.

The ALUP Kompressoren ADQ dryers have been developed to supply dry compressed air for your production process, with a minimum power requirement and low pressure drop for optimum efficiency.

Pre-cooled air enters the air/refrigerant gas heat exchanger where the compressed air temperature is reduced. This causes condensate to develop and the correct dewpoint to be achieved.

The cold air then passes through the air/air heat exchanger, raising it to a temperature where no condensate will ensue in the pipe distribution system.

In a sealed circuit, refrigeration gas is compressed, condensed, expanded and then cooled to form a liquid at approximately 0°C.



- 1 Refrigerant compressor
- 2 Refrigerant condenser
- 3 Fan
- 4 Refrigerant filter
- 5 Capillary tube
- 6 Air/refrigerant heat exchanger
- 7 Liquid separator
- 8 Hot gas by-pass valve
- 9 Air/air heat exchanger
- 10 Condensate separator
- 11 Automatic condensate discharge

