IMPORTANT INFORMATION!

Based on **£0.1249/kWh**

Energy costs are increasing and savings will now be significantly higher. Please refer to your electricity unit charge.

bcas TASKFORCE

With uses for compressed air growing every day, there is a diverse variation in air quality requirements.

The concentration of airborne contaminants during the compression process means the compressed air will inevitably need some form of air treatment before the point of use.

With a wide range of downstream equipment available to satisfy the most demanding compressed air treatment needs, selecting the right equipment can feel like a complex task. And these decisions will affect everything from maintenance schedules to the on-going costs associated with achieving the required air quality standards.

In this guide, we provide an overview on specifying air treatment equipment, and the range of technologies available.

The 10% Taskforce!

Join our campaign to cut compressed air energy wastage and take the equivalent of **317 thousand cars off the road,** saving UK business over **£147.5 million**.

Visit the **BCAS 10% Taskforce website** below and share your energy saving tips. Working together, we can cut our carbon footprint from compressed air for a brighter future!

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Specifying air treatment equipment

1 Location, location, location

The first step should be to define the precise compressed air purity requirements, ideally using the ISO 8573-1 standard.

It is recommended that compressed air is treated:

- Prior to entry into the distribution system
- At critical usage points and applications, which ensures any contamination already in the distribution system is removed

Purification equipment should ideally be installed where the air is at the lowest possible temperature, i.e. downstream of air receivers. Point-of-use purification equipment should also be installed as close as possible to the application.

To allow correct sizing and selection of downstream equipment, the following operating parameters must be identified:

- The maximum compressed air flow rate into the filters/dryer
- The minimum operating pressure into the filters/dryer
- The maximum operating temperature into the filters/dryer
- The maximum ambient air temperature where the equipment is to be installed
- The required dewpoint for dryers

Together, these can have a major influence on product sizing and performance.

2 Purification technologies

There are a wide range of purification technologies found in a typical compressed air treatment system. These include:

- Compressor intake filtration
- After-cooling
- Air receivers
- Filtration
- Drying
- Condensate management

Setting the standard

ISO 8573-1 is an internationally recognised standard that details contaminants in compressed air and defines purity classes for them.

It enables equipment manufacturers to illustrate product performance easily, so you can specify products that will meet your site's demands.

Contaminant categories

Compressed air contaminants are commonly combined into three distinct categories for ease.

- Particles
- Oil
- Water

ISO 8573-1 refers to the main contaminants in this format

Key questions

For each air treatment technology, there will be a variety of questions to ask. For example, when choosing filtration, you will need to check:

- Has it been sized correctly? Can the filter handle the compressed air flow rate at the minimum system pressure and maximum system temperature?
- What grade of filtration is needed? Is single or multi-stage filtration required? Are you specifying at the compressor house or point of use?
- What budget is available? Filters are often seen as a commodity and purchased on price, but is it worth compromising on performance? Has a total cost of ownership approach been taken, rather than just focusing on the initial purchase price?

More info

For more compressed air energy savings tips and advice, visit
www.taskforce10.bcas.org.uk

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