



AIRQUAL-1 Breathing Air Quality Test Kit

### Frequency as Guidance

The purity and quality of compressed air breathing gases is regulated by BS EN12021, however, there tends to be some confusion and misunderstanding on the points raised. The easiest starting point is to take a look at the frequency of carrying out tests; the BS EN12021 indicates 3 months as a maximum time period between measurements.

However, it is worth noting that this should be considered against previous guidance which was based on breathing air from portable compressors where the operating conditions are likely to be more demanding than a fixed installation. It is worth recording the results of the test, noting any changes; if the changes are of little significance or nonexistent then the frequency of testing can be decreased to 6 monthly or to an annual check.

### Point of Measurement

It is fairly common for the test to be carried out at the outlet of a breathing air supply and before it is sent along a distribution line to a designated breathing air take-off point. However, this method can be faulted as it doesn't take into account the current condition of the distribution piping (corrosion or oil on the walls of the piping). It is assumed that at the point of use the take-off point (where the operator connects the breathing air hose) is done by a quick connect coupling directly from the distribution pipe. This is then fed to a belt pack containing the appropriate combination of filters for the contaminants most likely to be in the supply.

To minimise the chance of errors, the measurement of breathing air purity should be carried out as close to the point of use as possible. This is for two reasons; firstly, compressed air pipe systems can introduce atmospheric contaminants at leakage points where these can be drawn in due to the velocity of the air passing the leakage point. This can also occur in the case where the compressed air humidity level is below that of the surrounding atmosphere. Secondly, where a belt pack is worn with appropriate mix of filtration the life of the belt pack will depend on the supplied breathing air purity.

However, it can be argued that the measurement point can be at the breathing air outlet point if regular testing proves there is little or no difference between the breathing air supply outlet and the point of use. Please note that this should only be the preferred method of testing if there are valid service and maintenance records to ensure that the breathing air equipment is in full compliance with the manufacturer specification.

### Distribution System

The condition of the distribution system over time is an issue that must be considered before the measurement of compressed air. It has to be recognised due to modifications done to compressed air systems and the fact that leaks can appear in compressed air distribution systems where there was none previously maintaining air purity is challenging especially for breathing applications.