

Technical Bulletin 42

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High Purity Work Station

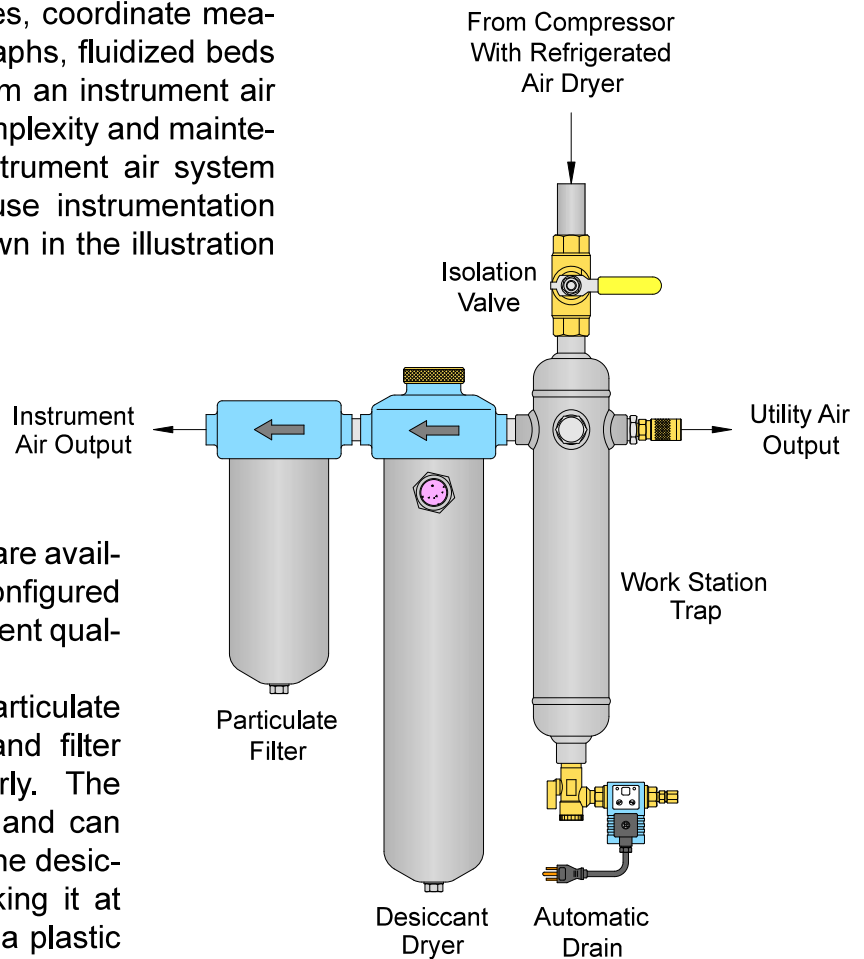
by Brian S. Elliott

Most manufacturing facilities generally have a utility air requirement plant wide. Utility air is typically processed through a refrigerated dryer, such as an Air Options, Dry Doc or JT Series unit. This is just fine for the typical pneumatic tools, cylinders and dust-of jets that are commonly found throughout the plant.

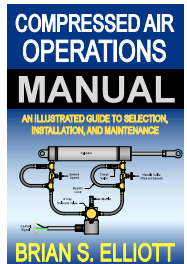
Many facilities that generally operate on utility air, may have a few pieces of equipment with a higher air quality requirement. Equipment such as CNC machines, coordinate measuring systems, liquid & gas chromatographs, fluidized beds and the like, generally benefit greatly from an instrument air source. In these cases, the expense, complexity and maintenance requirements of a plant wide instrument air system isn't warranted. Therefore, a point-of-use instrumentation work station is typically specified as shown in the illustration below.

This arrangement uses an Air Options work station trap mounted to the distribution system through a isolation valve. One port of the trap is configured with a single tower desiccant dryer and a .01 to 5 um particulate filter. The other two ports on the trap are available for utility applications while the port configured with the desiccant dryer produces instrument quality air for those special applications.

Typically the desiccant dryer and particulate filter are usually sized so the media and filter element require servicing just twice yearly. The filter elements are typically inexpensive and can be kept in stock for easy replacement. The desiccant charge can be regenerated by baking it at 400°F for 30 minutes, it's then sealed in a plastic bag and is ready for the next cycle.



Comprehensive information on compressed air systems is provided in the book "Compressed Air Operations Manual" by Brian S. Elliott, ISBN: 0-07-147526-5 Published by the McGraw-Hill Book Co.



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