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ISO 8573-1:2001 Compressed Air Quality Standard

ISO 8573-1:2001 CLASS	Solid Particulate					Water		Oil
	Maximum number of particles per m^3			Particle Size micron	Concentration mg/m^3	Vapour Pressure Dewpoint	Liquid g/m^3	Total Oil (aerosol liquid and vapour) mg/m^3
	0.1 - 0.5 micron	0.5 - 1 micron	1 - 5 micron					
0	As specified by the equipment user or supplier					As specified by the equipment user or supplier		As specified by the equipment user or supplier
1	100	1	0	-	-	-70°C	-	0.01
2	100,000	1,000	10	-	-	-40°C	-	0.1
3	-	10,000	500	-	-	-20°C	-	1
4	-	-	1,000	-	-	+3°C	-	5
5	-	-	20,000	-	-	+7°C	-	-
6	-	-	-	5	5	+10°C	-	-
7	-	-	-	40	10		0.5	-
8	-	-	-	-	-		5	-
9	-	-	-	-	-		10	-

Chart provided by Domnick Hunter, a division of Parker

WHAT IS ISO?

ISO (International Standards Organization) is the world's largest developer and publisher of International Standards. The ISO 8573-1: 2001 document is part of a group of documents within the ISO 8573 standard that specifies the amount of contamination allowed in each cubic metre of compressed air.

The purpose of ISO 8573-1:2001 is to provide end users of compressed air with guidelines on more stringent air quality specifications for critical applications of compressed air. It is an easy-to-use document that combines the three most common and abundant contaminants in compressed air into one table.

Note: one cubic metre is equal to 35.31 cubic feet

Specifying air purity in accordance with ISO 8573-1:2001

When specifying the purity of air required, the standard must always be referenced, followed by the purity class selected for each contaminant (a different purity class can be selected for each contaminant if required).

An Air Quality Specification example is below:

ISO 8573-1:2001 Class 1.2.1

ISO 8573-1:2001 refers to the standard document and its revision, the three digits refer to the purity classifications selected for solid particulate, water and total oil. Selecting an air purity class of 1.2.1 would specify the following air quality when operating at the standard's reference conditions:

Class 1 Particulate

In each cubic metre of compressed air, no more than 100 particles in the 0.1 - 0.5 micron size range are allowed. In each cubic metre of compressed air, no more than 1 particle in the 0.5-1 micron size range is allowed. In each cubic metre of compressed air, no particles in the 1-5 micron size range are allowed.

Class 2 Water

A pressure dew point of -40°C or better is required and no liquid water is allowed.

Class 1 Oil

In each cubic metre of compressed air, not more than 0.01mg of oil is allowed. This is a combined level for both oil aerosol and oil vapor.

ISO 8573-1:2001 Class 0

The ISO 8573-1:2001 table also includes a class 0 for each type of contaminant. Should an application require compressed air purity which is higher than the levels shown for class 1, then class 0 allows the user and an equipment manufacturer or supplier to agree their own levels within the following guidelines:

- The purity levels selected must be more stringent than those of class 1
- The purity levels selected are measurable with the test equipment and methods of ISO 8573 parts 2 to 9
- The agreed levels are written as part of the air quality specification.

Important Notes

- Class 0 does not mean zero contamination allowed in the compressed air
- Manufacturers should not state products comply with Class 0 unless purity levels have clearly been defined and agreed with the user
- Purity levels beyond the accurate measurement capabilities given in ISO 8573 parts 2 and 9 should not be selected as there is no accurate way of verifying product performance
- To operate a cost-effective compressed air system, Class 0 should only be specified at the point of use and for the most critical of applications.