

**Specifying air quality (purity) in accordance with ISO8573-1:2010, the international standard for Compressed Air Quality**

<b>ISO 8573-1:2010 COMPRESSED AIR CONTAMINANTS AND PURITY CLASSES</b>							
<b>CLASS</b>	<b>SOLID PARTICULATE</b>				<b>WATER</b>		<b>OIL</b>
	By Particle Size (maximum number of particles per m <sup>3</sup> )			By Mass	Vapour Pressure Dewpoint	Liquid	Aerosol Liquid & Vapour
	0.1 to 0.5 micron	0.5 to 1 micron	1 to 5 micron	mg/m <sup>3</sup>	°C	g/m <sup>3</sup>	mg/m <sup>3</sup>
0	As specified by the equipment user or supplier and more stringent to Class 1						
1	≤ 20,000	≤ 400	≤ 10	-	≤ -70	-	≤ 0.01
2	≤ 400,000	≤ 6,000	≤ 100	-	≤ -40	-	≤ 0.1
3	-	≤ 90,000	≤ 1,000	-	≤ -20	-	≤ 1
4	-	-	≤ 10,000	-	≤ +3	-	≤ 5
5	-	-	≤ 100,000	-	≤ +7	-	-
6	-	-	-	≤ 5	≤ +10	-	-
7	-	-	-	5 - ≤ 10	-	≤ 0.5	-
8	-	-	-	-	-	0.5 - ≤ 5	-
9	-	-	-	-	-	5 - ≤ 10	-
X	-	-	-	> 10	-	> 10	> 10

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).

For example:

**ISO 8573-1:2010 Class 1.2.1**

ISO 8573-1:2010 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, the particulate count should not exceed 20,000 particles in the 0.1 to 0.5 micron size range, 400 particles in the 0.5 - 1 micron size range and 10 particles in the 1 - 5 micron size range.

**Class 2 Water**

A pressure dewpoint (PDP) of -40°C or better is required and no liquid water is allowed.

**Class 1 Oil**

In each cubic meter of compressed air, not more than 0.01mg of oil is allowed. This is a total level for liquid oil, oil aerosol and oil vapour.

**ISO 8573-1:2010 Class 0 (Zero)**

**Class 0 does not mean zero contamination**

**Class 0 requires the user and the equipment manufacturer to agree contamination levels as part of a written specification**

**The agreed contamination levels for Class 0 specification should be within the measurement capabilities of the test equipment and test methods shown in ISO8573 Pt2 to Pt9**

**The agreed Class 0 specification must be written on all documentation to be in accordance with the standard**

**Stating Class 0 without the agreed specification is meaningless and not in accordance with the standard**

**A number of compressor manufacturers claim that the delivered air from their oil-free compressors is in compliance with Class 0 - this can be misleading so ask for more details**

**A compressor delivering air to Class 0 will still require purification equipment in both the compressor plant room and at the point of use for the Class 0 purity to be maintained at the application**

**Air for critical applications such as breathing, medical, food etc. typically only requires air quality to Class 2.2.1 or Class 2.1.1**