

Air Quality classes defined in ISO 8573

There are standardized compressed air quality classes which makes easier for manufactures to define required air quality to ensure trouble free operation of their equipment.

The ISO specify 3 major contaminants of compressed air - **solid particles, water, and oil**. These contaminants are specified by 3 digits that are referring to purity class from table below.

Particle size and density - Definition of the size and concentration of solid matter particles like dirt or rust that may remain in the compressed air.

Pressure dew point - Definition of the temperature to which the compressed air can be cooled without condensation of the moisture it contains. The pressure dew point changes with the air pressure.

Oil content - Definition of the residual quantity of aerosols and hydrocarbons contained in the compressed air.

Class	Solid particles per m3			Water Pressure dew point in °C	Oil Residual oil content in mg/m ³
	0.1 - 0.5 micron	0.5 - 1 micron	1 - 5 micron		
1	100	1	0	-70	0,01
2	100 000	1000	10	-40	0,1
3	-	10 000	50	-20	1
4	-	-	1000	+3	5
5	-	-	2000	+7	-
6	-	-	-	+10	-

Selecting an air purity class of 2.3.1, would specify the following air quality when operating at the standard's reference conditions:

Class 2 Particles

In each cubic meter of compressed air, no more than 100,000 particles in the 0.1 - 0.5-micron size range are allowed. In each cubic meter of compressed air, no more than 1,000 particles in the 0.5 - 1 micron size range is allowed. In each cubic meter of compressed air, no more than 10 particles in the 1 - 5-micron size range is allowed.

Class 3 Water

A pressure dewpoint of -20°C

Class 1 Oil

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