

Compressed Air Quality

Class 0 Oil-Free Air for Automotive Applications



The freedom of oil-free

How pure is your air?

In 2001, the International Standards Organization (ISO) established a new class of air quality for automotive manufacturers with the highest standards. The standards were updated in 2010. Class 0 is the most stringent air quality class, limiting oil contamination in liquid, aerosol and vapor forms.

ISO 8573-1:2010 Air Quality Classes

Quality Class	Solids			Water		Oil & Oil Vapor
	Max Number of Particles per m ³			Pressure Dew Point		mg/m ³
	0.1-0.5 micron	0.5-1 micron	1-5 micron	°F	°C	
0	As specified by the end-user or manufacturer, and more stringent than Class 1					
1	≤ 20,000	≤ 400	≤ 10	-100	-70	0.01
2	≤ 400,000	≤ 6,000	≤ 100	-40	-40	0.1
3	—	≤ 90,000	≤ 1,000	-4	-20	1
4	—	—	≤ 10,000	37.4	3	5
5	—	—	≤ 100,000	44.6	7	—
6	—	—	—	50	10	—



Ingersoll Rand is committed to providing 100% oil-free air.

All Ingersoll Rand oil-free technologies have earned Class 0 certification through rigorous testing by TÜV Rheinland®, a global leader in independent testing and assessment. With Ingersoll Rand, you can enjoy the peace of mind that comes with knowing your compressed air is completely free of compressor-created contaminants.

How does compressed air quality affect your production lines?



Surface Preparation

Compressed air is used to clean and dry metal surfaces prior to painting. Oil contamination on these surfaces can impede paint adhesion and cause premature corrosion. Class 0 100% oil-free air eliminates these risks.



Spray Painting

Compressed air propels paint through paint guns and robots onto clean metal surfaces. Class 0 100% oil-free air ensures the paint will maintain its adhesive properties and prevents beading for a long-lasting, quality finish.



Paint Baths

Compressed air agitates paint baths to mix the paint, maintain consistency throughout the bath and prevent coagulation. Class 0 100% oil-free air allows the paint to remain free of compressor-created contaminants that could affect adhesion.



Robot Operation

Compressed air powers vehicle assembly robots, which are sensitive to compressed air quality. Class 0 100% oil-free air avoids replacements and production stoppages due to oil and sludge hampering robot operation.

Water-based paints and silicones

Water-based paints are gaining popularity in the automotive industry in both spray and bath applications. Advances in performance and improved drying requirements have made water-based paints a viable solution for automotive manufacturers looking to significantly reduce their volatile organic carbon (VOC) emissions. In fact, many large manufacturers have converted entire plants from oil-based to water-based paints with the exception of clear topcoats.

While water-based paint durability has improved over the years, it is still very sensitive to silicones, which cause the paint to crack. Ingersoll Rand Class 0 100% oil-free air compressors help manufacturers ensure high paint quality by preventing water-based paints from coming in contact with the silicones inherently found in oil.

