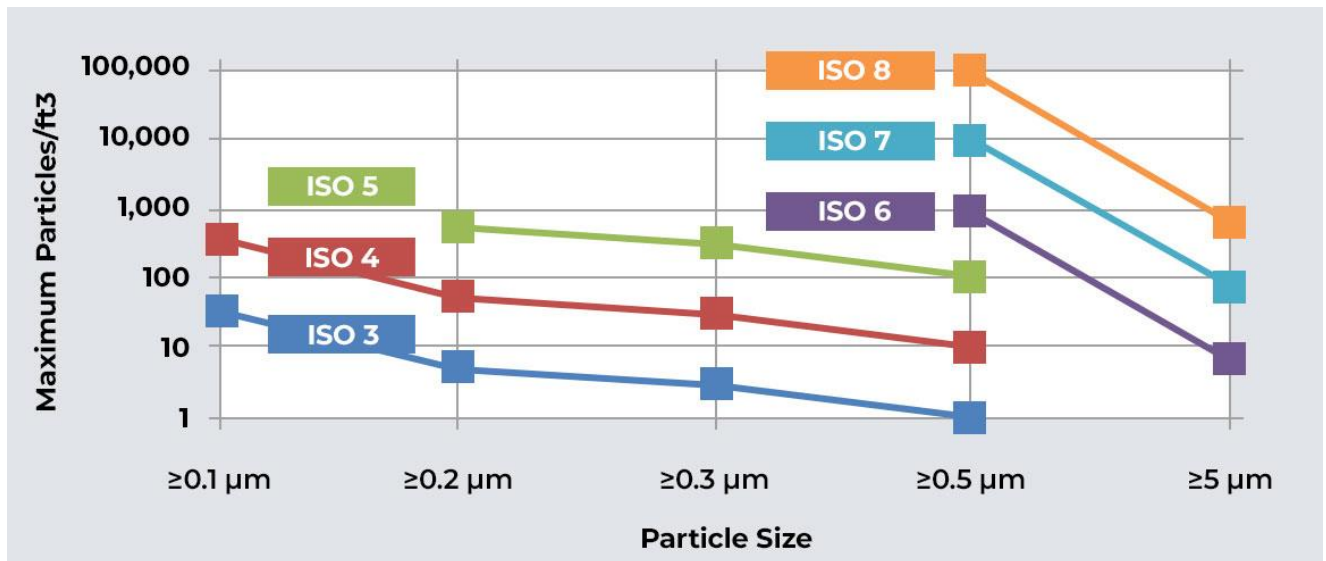


Cleanroom Specifications & Classifications

U.S. Federal Standard 209E Cleanroom Standards

What exactly is cleanroom classification? ISO 14644-1 and older standard FS 209E determine class by the concentration levels of particles. The particles range in size from .1 - .5 microns (μm). The class defines a minimum cleanliness level, not a specific design. However, class will greatly impact design considerations such as filtration, HVAC requirements and other design elements. Please call AdvanceTEC to discuss your specific requirements.



Maximum Particles / ft ³						
ISO	≥0.1 μm	≥0.2 μm	≥0.3 μm	≥0.5 μm	≥5 μm	Class
ISO 3	35	7	3	1		Class 1
ISO 4	350	75	30	10		Class 10
ISO 5		750	300	100		Class 100
ISO 6				1,000	7	Class 1,000
ISO 7				10,000	70	Class 10,000
ISO 8				100,000	700	Class 100,000

Biosafety Levels

Biosafety levels define the levels of containment required for handling various types of biological hazards. In the United States, there are four levels of containment as specified by the Centers for Disease Control and Prevention (CDC). The table below is based on information provided by in CDC publications.

Biosafety Level 1 (BSL-1)	Basic level of protection, appropriate for agents that are not known to cause disease in normal, healthy humans.
Biosafety Level 2 (BSL-2)	Level of protection appropriate for handling moderate-risk agents that cause human disease of varying severity by ingestion or through percutaneous or mucous membrane exposure.
Biosafety Level 3 (BSL-3)	Level of protection appropriate for agents of indigenous or exotic origin with a known potential for aerosol transmission that may cause serious and potentially lethal infections after inhalation.
Biosafety Level 4 (BSL-4)	Highest level of protection, appropriate for exotic agents that pose a high individual risk of life-threatening disease by infectious aerosols and for which no treatment is available.