



The mSR Series: Cleanroom Capability

Cleanroom performance is important for applications such as life science testing, semiconductor, inspection, and electronics manufacturing. With a limited number of contact surfaces in its design, the mSR Series positioner is ideal for these applications. Both standard and precision grade versions of the mSR can be prepared to meet a variety of cleanroom levels.

Airborne Particulate Cleanliness Class Comparison

ISO 14644-1	FED STD 209E	
ISO Class	English	Metric
3	1	M1.5
4	10	M2.5
5	100	M3.5
6	1,000	M4.5
7	10,000	M5.5
8	100,000	M6.5

Cleanroom performance depends upon a number of variables in an application, including:

- Absence or presence of laminar airflow over the stage
- Payload mass attached to stage
- Motion profile (acceleration, speed, etc...)
- Stage orientation
- Point of interest relative to the stage

Parker is capable of validating stage cleanroom classification according to either Federal Standard 209E or ISO standard 14644-1 with an onsite cleanroom test chamber, and has years of experience adapting stages to meeting a variety of classifications. Typical stage alterations might include cleanroom compatible lubricants or cable managements systems.

When testing standard (precision or standard grade) mSR stages as standard single axes or in an XY configuration, the mSR80 and mSR100 meet the following cleanroom ratings. Please contact Parker's application engineer with application specific details.

Stage	With Standard Cable Management (Fed Std 209E)	With Standard Cable Management (ISO 14644-1)	Without Cable Management (Fed Std 209E)	Without Cable Management (ISO 14644-1)
mSR 80	1000	6	100	5
mSR 100	1000	6	100	5

*Note mSR stages tested with a 2 kg load, at 0.3 G accel/dec, max speed of 500 mm/sec under laminar flow at 50 ft/min.

Electroless Nickel Option

For electrically sensitive applications in semiconductor processing and inspection or electronics manufacturing, the mSR can be given an electroless nickel coat and conductive lubricant. This allows for a conductive path to ground for constant electric discharge, lowering the risk of damaging sensitive electronics or devices.



THIS IS CLEANROOM READY



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