Critical Environment Control
1201 North Catalina Ave. #818
Redondo Beach, CA 90277
(310) 372-5011 **FAX** (866) 882-7457
John@ceccertify.com

Classification of Air Cleanliness

Company	Test Specification	Date of Certification
Circor Aerospace Inc 2301 Wardlow Circle Corona, CA 91720	ISO 14644-1 (2015-12-15)	July 11, 2017
	Test Area	**Next Scheduled Test**
	Cleanroom 1	July 15, 2018

Designation Criterion for Cleanrooms in this Test Area

ISO Class 7: Considered Size: 0.5 µm (352,000 particles/m3)

Facility	M^3 0.5 µm	M^3 5.0 µm	Relative Humidity	Temperature	Certification	Occupancy State
Cleanroom 1	2,352	38	57.5%	67.9	ISO Class 7	Operational

This ISO Class Certification compares the results of this test to maximum concentrations delineated in Table 1, ISO 14644-1. The number of test samples taken are pursuant to A.4.1.One sample test is taken at each test location. The cleanrom is deemed to have met the Specified ISO Class if the number of particles/cubic meter at each sample location does not exceed the limits delineated in Table 1 (A.6.2.1)

Testing was performed with a Climet Instruments Model CI 500, calibrated at manufacturers recommended intervals. This instrument has been calibrated in accordance with ISO 10012-1 and ANSI Z540-1 (Which replaces MIL-STD-45662A). ***Calibration Date:*** December 28, 2017

Calibration traceability to a National Measurement Standard (NMS) is established by using mono-disperse latex spheres as a calibration standard. These spheres are sized by methods traceable, by lot number, to the National Institute of Standards and Technology

Critical Environment Control certifies that the test results recorded on this document are accurate as of the time of this test. Critical Environment Control hereby certifies that the above described systems met the acceptance criterion for the Air Cleanliness Classes delineated above.

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Circor Aerospace Inc
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Test Specification
ISO 14644-1 (2015-12-15)

Date of Certification
July 11, 2017

Next Scheduled Test
July 15, 2018

Designation Criterion for Flow Benches

ISO Class 5: Considered Size: 0.5 µm (Maximun 3,520 particles/m^3)

Location	Bench #	M^3 0.5 µm	M^3 5.0 µm	Velocity	Certification
Manufacturing Area	2	935	0	60	ISO Class 5

This ISO Class Certification compares the results of this test to maximum concentrations delineated in Table 1, ISO 14644-1. The number of test samples taken are pursuant to A.4.1.One sample test is taken at each test location. The cleanrom is deemed to have met the Specified ISO Class if the number of particles/cubic meter at each sample location does not exceed the limits delineated in Table 1 (A.6.2.1)

Testing was performed with a Climet Instruments Model CI 500, calibrated at manufacturers recommended intervals. This instrument has been calibrated in accordance with ISO 10012-1 and ANSI Z540-1 (Which replaces MIL-STD-45662A). ***Calibration Date:*** December 28, 2017

Calibration traceability to a National Measurement Standard (NMS) is established by using mono-disperse latex spheres as a calibration standard. These spheres are sized by methods traceable, by lot number, to the National Institute of Standards and Technology

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PO Box 818
Redondo Beach, CA 90277-0818

Test Standard: **ISO 14644-1 (2015-12-15)**

Company Name

Cleanroom 1

Room ISO Class 8

Date Tested:	07/11/2017	Occupancy State:	Operational
Next Test:	07/15/2018	People in Rm:	3
Time of Test:	7:31 AM	Room Size:	39 M^2

Test Specifications

Class Designation	ISO Class 7	Number of Samples / Test Point:	1
Considered Particel Size	0.5µm	Airflow Rate:	28.3 LPM
Maximum Particles / M^3	352,000	Minimum Sample Volume (Liters)	0.057
Number of Test Points	14	Actual Sample Volume (Liters):	28.3 LPM

Test Data Sheet

Test Point	28.3 L 0.5µm	M^3 0.5µm		28 L 5.0µm	M^3 5.0µm	RH	Temperature F^o
1	68	2,400	***Pass***	2	71	57.2%	70.2
2	73	2,577	***Pass***	0	0	56.0%	67.8
3	210	7,413	***Pass***	1	35	56.0%	68.2
4	74	2,612	***Pass***	2	71	54.8%	68.2
5	36	1,271	***Pass***	0	0	53.2%	67.8
6	55	1,942	***Pass***	1	35	53.6%	67.8
7	20	706	***Pass***	0	0	53.6%	67.8
8	10	353	***Pass***	0	0	53.6%	68.2
9	109	3,848	***Pass***	2	71	54.4%	65.8
10	86	3,036	***Pass***	2	71	56.8%	67.0
11	97	3,424	***Pass***	0	0	61.2%	67.4
12	22	777	***Pass***	2	71	65.6%	67.0
13	48	1,694	***Pass***	2	71	65.2%	68.2
14	25	883	***Pass***	1	35	63.2%	69.4
Averages	67	2,352		1	38	57.5%	67.9

Test Results

0.5µm M^3 Average	5.0µm M^3 Average	RH	Temperature. F^o	Certification	Occupancy State	Differential Pressure
2,352	38	57.5%	67.9	ISO Class 7	Operational	NA

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Test Standard: **ISO 14644-1 (2015-12-15)**

Company

Flow Benches

ISO Class 5

Date Tested: 07/11/2017 Next Test: 07/15/2018

Test Specifications

Class Designation:	ISO Class 5	Number of Samples / Test Point:	1
Considered Particel Size:	0.5µm	Airflow Rate:	28.3 LPM
Maximum Particles / $M^{3:}$	3,520	Minimum Sample Volume (Liters):	5.682
Number of Test Points:	2	Actual Sample Volume (Liters):	28.3 LPM

Bench #1

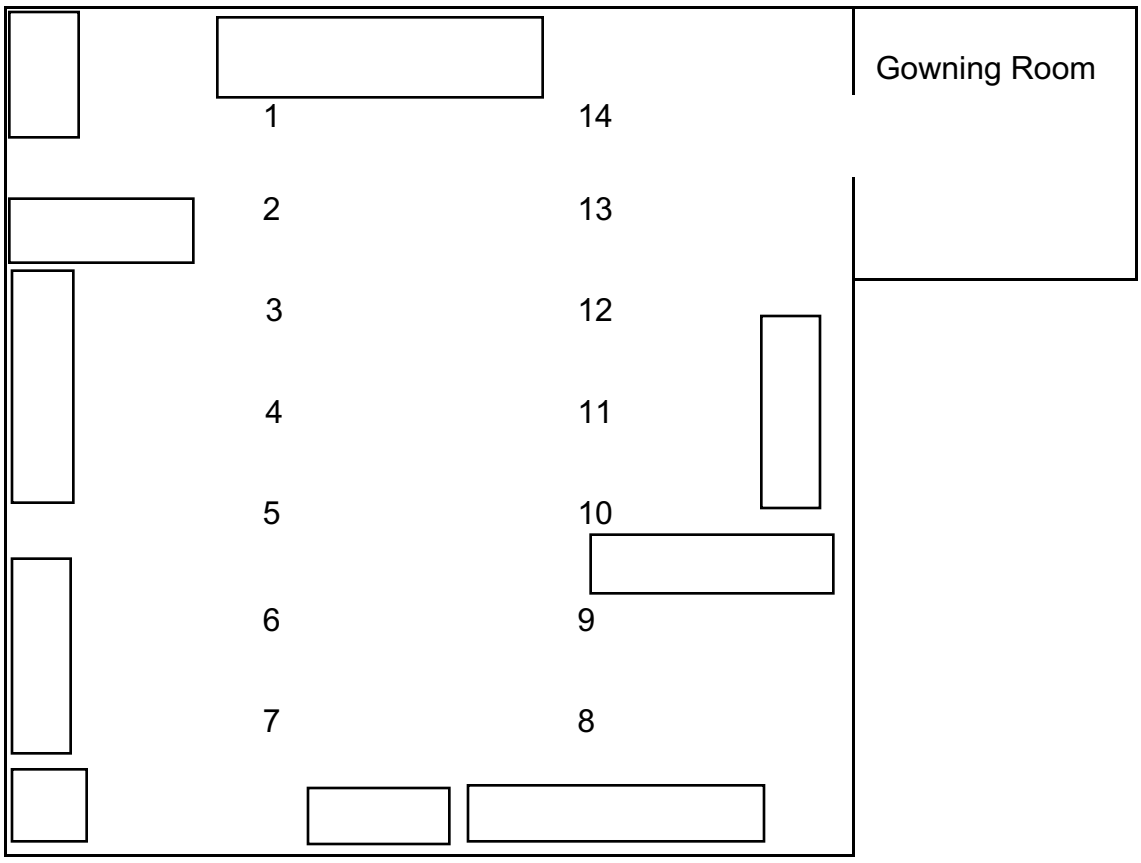
Test Point	28.3 L 0.5µm	M^3 0.5µm		28 L 5.0µm	M^3 5.0µm	Velocity
1	53	1,871	***Pass***	0	0	50
2	0	0	***Pass***	0	0	70
Averages	27	935		0	0	60

Test Results

0.5µm M^3 Average	5.0µm M^3 Average	Velocity	Certification
935	0	60.0	ISO Class 5

Critical Environment Control

Particle Count Location Map



Circor Aerospace Inc
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Reference: CR #1