



## ***Validation & Calibration Services***



**SRIVIN ENGINEERING COMPANY**

[www.srivin.org](http://www.srivin.org)



Anemometers (Fan Type/Hot Wire)



Air Capture hood

## Air Flow Measurement, Air Velocity/Air Changes

To measure the airflow velocity across the filter, room air volume, number of air changes, check the differential pressure inside the clean room.

### Instruments used:

- 1) Anemometers (Fan type / Hot wire).
- 2) Air capture Hood



Manometer



Magnehelic Gauge

## Differential Pressure Test

We conduct room pressurization test for clean rooms. As a part of the validation process, this test verifies that a pressure differential meet the specified requirements.

### Instruments used:-

- 1) Magnehelic Gauge & Manometer



Aerosol photometer

## Hepa Filter Integrity (Leak) Test

This test is carried out to check the Hepa filter media integrity leak test.

### Instruments used:-

- 1) Photometer (with inbuilt printer).
- 2) Aerosol generator.



Particle Counter (with the inbuilt thermal printer)

## Non-Viable Particle

To Check class of cleanliness as per ISO/EU GMP/ WHO / Federal STD .This test provides the classification of the area has been achieved with regard to the concentration of air borne particulate.

### Instrument used:-

- 1) Particle counter (with inbuilt thermal printer).



Aerosol Generator

## Recovery Test

Demonstrates the ability of the room to remove the particulate by purging the area with filtered air and then the room can change from a dirty to clean state within specified time.

### Instruments used:-

- 1) Particle counter
- 2) Aerosol generator



Digital sound meter

## Sound Level Measurement Test

The noise level test that measure the sound pressure.

### Instrument used:

- 1) Digital sound meter



Wireless data loggers



Data logger

## Temperature & Humidity Measurement (Mapping)

Data Loggers with wired sensors & Wireless Data Loggers. Small compact battery operated having LCD display, in-built memory & data downloading port with software.

### Instruments used

- 1) Data Logger (8/16/24/32 channel) with wired sensors.
- 2) Wireless data loggers (Battery operated)



Dew point indicator, Digital stop watch, Pressure gauge, RTD sensor, Non-viable

## Compressed Air (Purity Test):-

### Parameters to be done :-

Oxygen, Nitrogen Oxide (No<sub>2</sub>) , Carbon Dioxide, Sulphur Dioxide (So<sub>2</sub>), Oil mist, Water Vapour, Dew Point, Carbon monoxide

### Instruments used:-

Dew Point Indicator, Digital Stop Watch, Pressure Gauge, RTD sensor, Non-Viable Particle Counter, Gastec tubes, Compressed air kit.



Digital video recorder handy cam

Water fogger

## Air Flow Pattern Test

Clean rooms as well as clean room equipment to determine that the air flow direction is positive laminar as per design.

### Instruments Used:

- 1) Digital video recorder handy cam
- 2) Water fogger or Dry ice fogger or Glycol fogger



Digital lux meter

## Light Intensity or Lux Level Measurement Test

To verify that the installed light levels. Uniformity meet the specified requirements. We make use of modern testing instruments for assessment of lighting lux levels and intensity.

### Instrument Used:-

- 1) Digital LUX meter



Aerosol photometer

## Containment Leak Test:-

To determine if there is intrusion of contaminated air into the clean zones from surrounding non-controlled area at the same or different static pressure level.

### Instruments used:-

- 1) Aerosol photometer
- 2) Aerosol generator

## NABL & Non-NABL(Calibration) Services

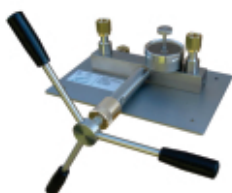


Temp. Bath, RTD Sensor, multimeter

### Calibration of Thermal Parameters Range (-80 to 1150 OC / 20 to 90% RH):-

#### Instruments Used:

Temp. bath, Data logger with sensor, RTD sensor, thermocouple, 6½ DMM/ digital thermometer, Humidity chamber, RH & temp indicator with Sensor



Comparison test pump

Digital pressure gauge

### Calibration of pressure gauges, vacuum gauges, Compound gauges, transmitters, transducers, switches:-

#### Instruments used:-

Digital pressure gauge, Comparison test pump, Vacuum test pump, Differential pressure gauge, Digital manometer.



Anemometer



Air capture hood

### Air Velocity:

Calibration of instrument (Anemometer, Air capture hood)

#### Instrument used:-

Air velocity test pump.

## Annual Maintenance Contract (AMC):-

We undertake AMC to maintain clean rooms / HVAC systems / clean room equipments. The following checks are conducted periodically in our AMC

- To check the AHU conditions (filters cleaning replacement), Blower plus Motor assembly, AHU doors accessories.
- Check the condensing units / Chilled water systems, Valves, Controllers.
- Check the electrical control panel operations.
- Calibration of Magnehelic / Pressure /Temp. gauges, Indicators, Sensors etc., Validation of clean room.
- Check the Clean room doors / Panels / Accessories interlocking.
- Ducting with insulation, Dampers, Accessories check, maintain, replacement, documentation at your site.
- Cleanroom equipment repairs / modifications. Documentation work based on site conditions DQ, IQ, OQ, PQ.



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