



info@shan-int.com

DUCT INSPECTION, CLEANING AND CERTIFICATION
AIR & HYDROSTATIC BALANCING & CERTIFICATION & CERTIFICATION
SOUND & VIBRATION MEASUREMENT & CERTIFICATION
BUILDING SYSTEMS COMMISSIONING & CERTIFICATION
FUME HOOD CALIBRATION & CERTIFICATION
CLEAN ROOM PERFORMANCE TESTING & CERTIFICATION



SHAN INTERNATIONAL

Environmental Solutions



Your Partner for **Clean, Green & Healthy Environment**



The HVAC Inspection, Maintenance and Restoration Association

Save Energy, Save Environment, Achieve Good Indoor Air Quality, Hire A Competent Company, One that actually has the expertise and knowledge to evaluate the Systems and not just balance to a number.

For the last few decades, the new industrial research and development focuses to provide comfortable living to humanity. In result, it's also evolved with environmental challenges and health issues. Hence, the outdoor & indoor pollution is breeding today's lethal diseases and epidemics which takes thousand lives every year until discover and medicine for cure goes for mass production.

Now many scientist and engineers are trying their best to provide safe environment around us when we are outside. While to keep the indoor air quality at its best that is the most vulnerable place to contribute viral infection and illness.

While wastage of energy due to inefficient system design, installation mistake, Wrong interpretation of engineering standard, engineering malpractices and unnecessary cost saving by less qualified architects, engineers, Installation workers, and commissioning personals, unprofessional ethics which really prone to wastage of natural wealth of the world

Therefore Shan International realize the market need of certified professional firm who can render certified third party services to achieve highest indoor air quality services, as define By ISO, WHO, CDC, EPA, ASHRAE, JCI, OSHA, **NADCA**, **NEBB** and other international and local bodies who setup the norms and standards.



ACR, the **NADCA** Standard for Assessment, Cleaning and Restoration of HVAC system 2013 is the latest guidance and recommended practices and procedural standards set for certified ASCS (Air conditioning System Cleaning Specialists)" for high quality duct cleaning and restoration services



As **NEBB** procedural Standards call for a procedural way to finding out of all discrepancies, short coming of System Design and application of an Installed system. Get it rectified, put it in operation in according to design intent or at optimum operating Condition, in order to achieve energy efficient HVAC or whole MEP system which matches the ASHRAE Defined Indoor Air Quality Standards.



Duct Inspection and Cleaning

We are only NADCA Certified Duct Cleaning and Restoration Company In Pakistan

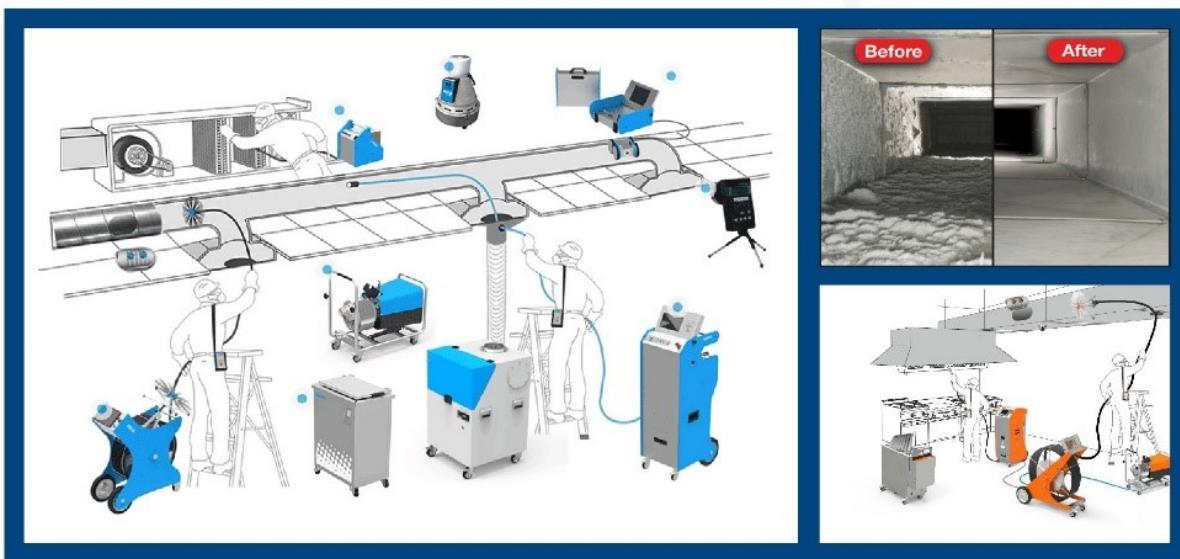
GET Your Air Ducts NADCA Certified. Do it On Priority

HVAC system are the lungs of our Home/buildings.

The duct cleaning rule of thumb according to the National Air Duct Cleaner Association (NADCA) is Simple: "if your ducts look dirty they probably are" NADCA suggest that dirty HVAC system Should be inspected by a reputable & certified HVAC contractor.

The Environmental Protection Agency (EPA) states that indoor air contains 70 times the pollutants of outdoor air. Often because of dirty air ducts. We are the experts in air quality, dedicated to ensuring that your family, friends & Colleagues are breathing cleaner air. You will save with your HVAC system running at peak efficiency.

Done Duct Cleaning job 250,000 sq.ft at New Islamabad International Airport Project



We Specialized in

- Robotics Duct Inspection
- Air Duct Cleaning
- Disinfection
- Restore Duct liner and Coat for Further Life
- Antimicrobial Coating, Duct Leakage Coating
- Cleaning of Kitchen Exhaust Hoods and Ducts

Get Free Duct Inspection



ULPA/ HEPA Filter DOP Test

In Accordance to

NEBB CRT Procedural Standards & EU-GMP

ISO, NSF/ ANSI

Get Your Filter Tested

ULPA/HEPA Filter Integrity (DOP) testing is an essential construction activity in the Pharmaceutical Industry and Hospital Buildings.

Our NEBB certified engineers & technicians are fully equipped to perform HEPA filter integrity (DOP) testing according to the Standards



ISO 14644.3 4.2.4 Installed filter system leakage test (Procedure B.6)

NSF/ANSI 49 Bio-safety Cabinetry Certification (Annex F.5)

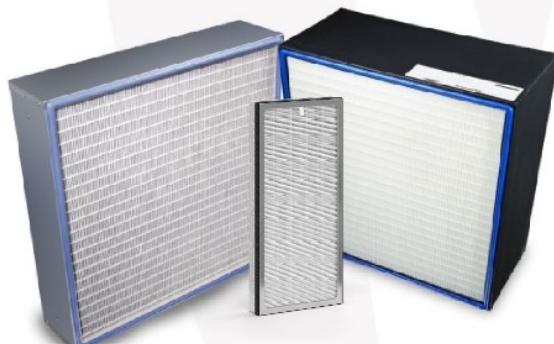
IEST RP

Recommended Tests:

- 1) Filter Leak Test - Aerosol Photometer Method
- 2) Filter Leak Test - Discrete Particulate Counter Method
- 3) Filter Leak Test - Total Aerosol Penetration Method
- 4) Bench Scan Filter Leak Test

The most-common onsite HEPA integrity test method is the Cold DOP test. We use PAO Polydisperse Aerosol in health & sciences industries and SLP mono dispersed aerosol in micro electronic industry or HEPA/ULPA filter in efficiency test.

At the conclusion of our comprehensive testing, you will receive a detailed analysis report and a NEBB endorsed certificate of compliance to verify HEPA filter integrity as per ISO Standard specifications.



HEPA Filter Replacement

Assessment of your ULPA or HEPA Filters

GET our Services For Replacement of contaminated ULPA or HEPA Filter with specified Protocols and Precautions following by NAFA Recommendations.



Testing Adjusting & Balancing



We are NEBB Certified

Third Party Contractor

Get your HVAC system Certified

With Energy Conservation while meeting the Design Intent, in accordance to NEBB Procedural Standards.

We have Huge Inventory of Calibrated certified Instruments.

We evaluate your Old System & suggest modification for improvement.

First We Test HVAC System to Verify the Capacities.

Then we adjust the System to reach within +/- 10%

Then Balance the un-balanced Areas.

We recommend to hire a certified TAB contractor in beginning of the project and get help to review the Design on earlier stages.

Which will avoid Insertion of Volume Dampers or Balancing Valves after Demobilization of MEP Contractor or workers.

Get your system perfect during construction to avoid compromises like wrong duct sizing,

Wrong air devices sizing, wrong pipes, equipment or ancillary components.

A qualified TAB contractor can save time, money and energy if hired during the construction.

We are solution provider, we work to help project owner, project managers, consultant, contractors and maintenance team.

Get our suggestion to make perfect your air & hydronics layout with required devices during construction.

OUR SERVICES

- Air Balancing
- Hydronic Balancing
- Sound & Vibration Testing
- Performance Enhancement and Testing of Chillers, Cooling Towers, Air Handling Units and Exhaust Fans
- HVAC System Performance Testing
- Indoor Air Quality Test and Periodic Solutions
- Periodic Fire Dampers Inspection and Testing

Clean Room Certification

Clean Room Performance Testing & Certification

NEBB CERTIFIED

WE Perform All Types of Cleanroom Tests

1. Air Flow Velocity & Uniformity Test-Filter Face Air Flow Velocity- Unidirectional.
2. Air Flow Velocity & Uniformity Test-Filter Face Air Flow Velocity-Non Unidirectional Volume Method.
3. Air Flow Velocity & Uniformity Test-Filter Face Air Flow Velocity-Non Unidirectional Velocity Method.
4. Air Flow Volume & Uniformity Test-Average Room Air Flow Velocity.
5. Air Flow Volume and Uniformity Test-Flow Hood Method.
6. Air Flow Volume and Uniformity Test-Travers Method.
7. Filter Installation Leak Test-Aerosol Photo Meter Test Method.
8. Filter Installation Leak Test-Discrete Particle Counter Test Method.
9. Filter Installation Leak Test-Total Aerosol Penetration Test Method.
10. Airborne particle Count Cleanliness Classification Test-ISO Standard.
11. Room Pressurization Tests
12. Air Flow Parallelism Test
13. Recovery Tests
14. Lighting Level & Uniformity Test
15. Sound Level Tests
16. Vibration Level Tests
17. General Temperature And Humidity Uniformity Tests
18. Comprehensive temperature And Humidity Test.
19. Electrostatics Tests
20. Conductivity Tests
21. Electromagnetic Interference (EMI) Tests.
22. Air Change Rate (ACH) Test
23. Bench Scan Filter Leak Tests

Get Your Cleanroom Certified on time:

We Do Evaluation Of Existing Clean room. Classification, Testing Calibration and Certification in accordance to ISO 14644, IEST RPs & NEBB Procedural Standards.

We Have excellent Inventory of Calibrated Certified Equipment.

We Certify As Built, At Rest and in operation Facilities.

We Can Classified your Sampling Booth, Dispensing Booth, Pass Box and Area EU-GMP at modes (**Airborne Non Viable Particle Count**)





Fume Hood Calibration

ASHRAE 110 SF6 TEST

04-06-08 liters

GET Your Fume Hoods NEBB Certified. Do it On time

Laboratory Fume hoods are Personal Protective Equipment, while it keeps lab Hygienically Clean. For Safe Lab Operation All Fume Hoods in the Lab must be Maintain in accordance to meet OSHA, ASHRAE, ASSE

ANSI/AIHA, these Fume Hood must be Calibrated and Certified by NEBB Certified Third Party not only after First Installation as well as every six months.

Don't play with your health as well as your's customer's health because the sampling in Contaminated Lab makes your test results Irrelevant and harmful to your health.



Recommended Fume Hood Test

- Airflow Face Velocity Test.
- Airflow Visualization Test
- Laboratory HVAC System Integrity and Commissioning
- Tracer Gas Containment Test
- Tracer Gas Sash Movement Effect.



Bio Safety Cabinet Certification

In Accordance to

NEBB CRT Procedural Standards & NSF/ ANSI 49

UL61010 A-1

Biosafety Cabinets are Designed to protect user Researcher/ Chemist Pathologies. But wrong Design, Wrong Application, Wrong Installation and Wrong Maintenance and non-Synchronization of BSC Controller to HVAC system makes these devices only a nice decoration piece, which does not serve as intended:



Don't play with your health as well as yours customer's health, because the sampling in contaminated Lab makes your test results irrelevant and harmful to health

Recommended Tests:

- 1) Cabinet Integrity Test.
- 2) HEPA Filter Leak Test.
- 3) Down Fall Velocity Test.
- 4) Inflow Velocity Test.
- 5) Airflow Smoke Pattern.
- 6) Other Optional Test.

Caution

On most of the Projects, External Exhaust Fans are of Wrong Type and Design.

Connected to wrongly designed Exhaust Flow Stack.

Which Contribute Contaminated Air to atmosphere as well as Fresh air, Air handler around them.

Call us for Free expert opinion.





Other Services

In Accordance

NEBB TAB and BSC Procedural Standards

Pressure Testing

- Air Duct Leakage Pressure and Smoke Test
- Isolation Room Pressure and Smoke Test
- Water Piping Leakage Pressure Testing
- Room Integrity Test
- Building Envelope Testing (BET)

Building Service Commissioning

- Pre Commissioning (FIV, OPT, Startup)
- BMS, BAS, ATC Functional Performance Tests
- HVAC Equipment Functional Performance Tests
- Electrical System Testing and Commissioning

Also Specialized in

- Temperature Mapping Study of Cold Storage, Warehouse
- Water Pipe Flushing and Chemical Treatment
- Evaluate the Performance of Existing HVAC System
- Redesigning of Existing Facility to Improve Performance
- Fire Protection System

Performance Enhancement

- Pumps
- Chillers
- Boilers
- Cooling Towers
- Heat Exchangers
- Air Handling Units
- Exhaust Air Fans
- Fan Coil Units

Major Projects

S.No	Projects	Scope of Work
01	New Islamabad International Airport, Islamabad	<ul style="list-style-type: none"> • HVAC system Flushing • Air Duct Cleaning • Testing Adjusting & Balancing Of Entire HVAC system • Pre commissioning, BMS Testing and Commissioning of Entire HVAC equipment.
02	Getz Pharma, Karachi	<ul style="list-style-type: none"> • Testing Adjusting & Balancing of Entire HVAC system
03	Getz Astola, Karachi	<ul style="list-style-type: none"> • Air Duct Inspection • Testing Adjusting & Balancing of Entire HVAC system • Cleanroom Performance Certification • Temperature mapping of Warehouse
04	Davis Standard Plant, Popular Aseptic Nooriabad	<ul style="list-style-type: none"> • Testing Adjusting & Balancing of Entire HVAC and Process Cooling system
05	Engro Polymer and Chemical Plant, Eastern Zone, Bin Qasim, Karachi	<ul style="list-style-type: none"> • Design Consideration of Door Air Curtain • Evaluation of Existing HVAC System in CCR • Room Pressurization Test (DP) • Room Integrity Test (Room Leakage Test)
06	King Abdul Aziz Center for World Culture, Dhahran, KSA	<ul style="list-style-type: none"> • Air & Hydronic Balancing • Duct Leakage & Temperature works for HVAC system
07	Saudi German Hospital, Jeddah, KSA	<ul style="list-style-type: none"> • Air & Hydronic Balancing works for HVAC system • Sound & Vibration Testing.
08	Betterjee Medical College Jeddah, KSA	<ul style="list-style-type: none"> • Air & Hydronic Balancing works for HVAC system • Sound & Vibration Testing.
09	Saudi German Hospital, Dammam, KSA	<ul style="list-style-type: none"> • Testing Adjusting & Balancing of Entire HVAC system
10	Twin Tower, Qatar	<ul style="list-style-type: none"> • Testing Adjusting & Balancing of Entire HVAC system
11	Bayan Palnic, Kuwait	<ul style="list-style-type: none"> • Air & Hydronic Balancing works for HVAC system
12	Amiri Terminal, Hammad International Airport, Kuwait	<ul style="list-style-type: none"> • Air & Hydronic Balancing works for HVAC system



Certificates

We are only NADCA and NEBB Certified Company in Pakistan

OSHA Standards



OUR CLIENTS





DUCT INSPECTION, CLEANING
AND CERTIFICATION



ULPA/ HEPA FILTER INTEGRITY
(DOP) TEST



AIR AND HYDRONIC BALANCING
AND CERTIFICATION



BUILDING SYSTEM COMMISSIONING
AND CERTIFICATION



SOUND AND VIBRATION MEASUREMENT
AND CERTIFICATION



TEMPERATURE MAPPING STUDY OF
COLD STORAGE AND WAREHOUSE



FUME HOOD CALIBRATION
AND CERTIFICATION



CLEANROOM's PERFORMANCE
TESTING AND CERTIFICATION



OUR MISSION

To Provide high quality TAB services strictly in adherence to the Testing, adjusting & balancing (TAB) procedure designed by National Environmental Balancing Bureau (NEBB)

OUR VISION

By doing NEBB specified procedural TAB work provide optimum energy management & better indoor air quality to our clients

SHAN INTERNATIONAL

Pakistan

info@shan-int.com, www.shan-int.com
Tel: +92 21 34320749, +92 336 1282186
OFFICE # 404, 4TH FLOOR NOOR ESTATE
BUILDING, D.A.C.H SOCIETY BLOCK 7/8,
SHAHRAH-E-FAISAL, KARACHI

Saudi Arabia

info@shan-tab.com, www.shan-tab.com
Tel: +966 013 8470 347
OFFICE # 304, 3RD FLOOR
P.O BOX 30960, BANDARIYA TOWER,
KING ABDUL AZIZ ROAD, AL-KHOBAR, KSA



National Environmental
Balancing Bureau