SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

SGS NORTH AMERICA, INC.
11599 Morrissey Road
Grass Lake, MI 49240
Daniel Miller Phone: 517 522 8453
Daniel.Miller@sgs.com

MECHANICAL

Valid To: August 31, 2026 Certificate Number: 1362.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following types of mechanical tests on Filters and Components:

Test Method:	**Test:**
Air Filtration – Compressed Air/Gases	
ISO 12500-1	Filters for compressed air Test methods Part 1: Oil aerosols
ISO 12500-3	Filters for compressed air Test methods Part 3: Particulates
SEMI F38	Test Method for Efficiency Qualification of Point-of-Use Gas Filters
Air Filtration – Gravimetric	
ISO 5011	Inlet air cleaning equipment for internal combustion engines and compressors — Performance testing
ISO 10263-2	Earth-moving machinery — Operator enclosure environment — Part 2: Air filter element test method
ISO 16890-3	Air filters for general ventilation — Part 3: Determination of the gravimetric efficiency and the air flow resistance versus the mass of test dust captured
Air Filtration – HEPA/ULPA	
IEST RP-CC-001	HEPA and ULPA Filters
IEST RP-CC-007	Testing HEPA and ULPA Filters
IEST RP-CC-021	TESTING HEPA AND ULPA FILTER MEDIA
EN 1822-1	High efficiency air filters (EPA, HEPA and ULPA) - Part 1: Classification, performance testing, marking
ISO 29463-1	High efficiency filters and filter media for removing particles in air — Part 1: Classification, performance, testing and marking
ISO 29463-2	High-efficiency filters and filter media for removing particles in air — Part 2: Aerosol production, measuring equipment and particle-counting statistics
ISO 29463-3	High-efficiency filters and filter media for removing particles in air — Part 3: Testing flat sheet filter media
ISO 29463-5	High-efficiency filters and filter media for removing particles in air Part 5: Test method for filter elements

Test Method:	**Test:**
Air Filtration – HVAC / General Ventilation	
ISO 11155-1	Road vehicles — Air filters for passenger compartments — Part 1: Test for particulate filtration
ASHRAE 52.2 Including Appendix J	METHOD OF TESTING GENERAL VENTILATION AIR-CLEANING DEVICES FOR REMOVAL EFFICIENCY BY PARTICLE SIZE
EN 779	Particulate air filters for general ventilation - Determination of the filtration performance
ISO 16890-1	Air filters for general ventilation — Part 1: Technical specifications, requirements and classification system based upon particulate matter efficiency (ePM)
ISO 16890-2	Air filters for general ventilation — Part 2: Measurement of fractional efficiency and air flow resistance
ISO 16890-4	Air filters for general ventilation — Part 4: Conditioning method to determine the minimum fractional test efficiency
Air Purifier Performance and Efficiency	
AHAM AC-1	Method for Measuring Performance of Portable Household Electric Room Air Cleaners
AHAM AC-7	Energy Test Method for Consumer Room Air Cleaner
IEC 62301	Household electrical appliances - Measurement of standby power
IEC 63086-2-1	Household and similar electrical air cleaning appliances - Methods for measuring the performance - Part 2-1: Particular requirements for determination of reduction of particles
Fluid Cleanliness and Contamination	
ASTM F312	Standard Test Methods for Microscopical Sizing and Counting Particles from Aerospace Fluids on Membrane Filters
ISO 16232	Road vehicles — Cleanliness of components and systems
ISO 4405	Hydraulic fluid power — Fluid contamination — Determination of particulate contamination by the gravimetric method
ISO 4407	Hydraulic fluid power — Fluid contamination — Determination of particulate contamination by the counting method using an optical microscope
SAE ARP 598	Procedure for the Determination of Particulate Contamination of Hydraulic Fluids by the Particle Count Method
Oil and Fuel Filtration	
ISO 4020	Road vehicles — Fuel filters for diesel engines — Test methods
ISO 4548	Methods of test for full-flow lubricating oil filters for internal combustion engines
ISO 16332	Diesel engines — Fuel filters — Method for evaluating fuel/water separation efficiency
ISO 16889	Hydraulic fluid power Filters Multi-pass method for evaluating filtration performance of a filter element
ISO 19438	Diesel fuel and petrol filters for internal combustion engines — Filtration efficiency using particle counting and contaminant retention capacity

Test Method:	**Test:**
SAE HS-806	SAE Oil Filter Test Procedure
SAE J1488	Emulsified Water/Fuel Separation Test Procedure
SAE J1985	Fuel Filter - Initial Single-Pass Efficiency Test Method
SAE J905	Fuel Filter Test Methods
Microbial Filtration	
ASTM F1671	Standard Test Method for Resistance of Materials Used in Protective Clothing to Penetration by Blood-Borne Pathogens Using Phi-X174 Bacteriophage Penetration as a Test System
ASTM F2101	Standard Test Method for Evaluating the Bacterial Filtration Efficiency (BFE) of Medical Face Mask Materials, Using a Biological Aerosol of Staphylococcus aureus
ASTM F838	Standard Test Method for Determining Bacterial Retention of Membrane Filters Utilized for Liquid Filtration
EN 14683 Annex B	Medical face masks - Requirements and test methods Annex B Method for in vitro determination of bacterial filtration efficiency (BFE)
Miscellaneous Physical Testing	
ASTM D737	Standard Test Method for Air Permeability of Textile Fabrics
ASTM F1980	Standard Guide for Accelerated Aging of Sterile Barrier Systems and Medical Devices
ASTM F316	Standard Test Methods for Pore Size Characteristics of Membrane Filters by Bubble Point and Mean Flow Pore Test
ISO 2942	Hydraulic fluid power — Filter elements — Verification of fabrication integrity and determination of the first bubble point
ISO 5801	Fans — Performance testing using standardized airways
ISO 9237	Textiles — Determination of the permeability of fabrics to air
Personal Protective Equipment	
NFPA 1971 Clause 8.71	Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting – Particulate Blocking Test
ASTM F2100	Standard Specification for Performance of Materials Used in Medical Face Masks
ASTM F2299/F2299M	Standard Test Method for Determining the Initial Efficiency of Materials to Penetration by Particulates Using Latex Spheres
ASTM F3502	Standard Specification for Barrier Face Coverings
EN 14683 Annex C	Medical face masks - Requirements and test methods Annex C Method for determination of breathability (differential pressure)
GB 2626 clauses 6.3, 6.5, 6.6	Respiratory protection—Non-powered air-purifying particle respirator
NIOSH TEB-APR-STP-0003	Determination of Exhalation Resistance Test, Air-Purifying Respirators Standard Testing Procedure (STP)
NIOSH TEB-APR-STP-0007	Determination of Inhalation Resistance Test, Air-Purifying Respirators Standard Testing Procedure (STP)
NIOSH TEB-APR-STP-0051	Determination of Particulate Filter Efficiency Level for P100 Series Filters Against Liquid Particulates For Non-Powered, Air-Purifying Respirators Standard Testing Procedure (STP)

Test Method:	**Test:**
NIOSH TEB-APR-STP-0059	Determination of Particulate Filter Efficiency Level for N95 Series Filters Against Solid Particulates For Non-Powered, Air-Purifying Respirators Standard Testing Procedure (STP)
Vacuum Cleaner Performance	
ASTM F1284	Standard Test Method for Evaluating Carpet Embedded Dirt Removal Effectiveness of Residential Central Vacuum Cleaning Systems
ASTM F1977	Standard Test Method for Determining Initial, Fractional, Filtration Efficiency of a Vacuum Cleaner System
ASTM F2105	Standard Test Method for Measuring Air Performance Characteristics of Vacuum Cleaner Motor/Fan Systems
ASTM F2607	Standard Test Method for Measuring the Hard Surface Floor-Cleaning Ability of Household/Commercial Vacuum Cleaners
ASTM F2608	Standard Test Method for Determining the Change in Room Air Particulate Counts as a Result of the Vacuum Cleaning Process
ASTM F3150	Standard Specification for HEPA Filtration System Performance of Residential and Commercial Vacuum Cleaners
ASTM F558	Standard Test Method for Measuring Air Performance Characteristics of Vacuum Cleaners
ASTM F608	Standard Test Method for Evaluation of Carpet Embedded Dirt Removal Effectiveness of Household/Commercial Vacuum Cleaners
ASTM F820	Standard Test Method for Measuring Air Performance Characteristics of Central Vacuum Cleaning Systems
ASTM F888	Standard Test Method for Measuring Maximum Function Volume of the Primary Dirt Receptacle in a Vacuum Cleaner
EN 60312-1	Vacuum cleaners for household use - Part 1: Dry vacuum cleaners - Methods for measuring the performance
IEC 60335-2-69 (Annex A)	Household and similar electrical appliances - Safety - Part 2-69: Particular requirements for wet and dry vacuum cleaners, including power brush, for commercial use
IEC 62885-2	Surface cleaning appliances - Part 2: Dry vacuum cleaners for household or similar use - Methods for measuring the performance
Water Filtration	
ASTM F795-88	Standard Practice for Determining the Performance of a Filter Medium Employing a Single-Pass, Constant-Rate, Liquid Test (Withdrawn 2002)[1]
NSF 42	Drinking Water Treatment Units - Aesthetic Effects
NSF 53	Drinking Water Treatment Units – Health Effects
NSF 58	Reverse Osmosis Drinking Water Treatment Systems
NSF 419	Public Drinking Water Equipment Performance - Filtration

Within the following operational ranges:

Parameter	**Range**
Flow – Water	Up to 290 gpm
Flow – Oil and Fuel	Up to 150 gpm
Flow – Air	Up to 2,900 scfm
Temperature – Water	(20 to 90) ºC
Temperature – Oil and Fuel	(-40 to 160) ºC
Temperature – Air	(Ambient up to 100) ºC

Parameter	Range
Pressure – Water	To 100 psig
Pressure – Oil and Fuel	To 3,000 psig
Pressure – Air	(5 (vacuum) to 100) psig
Particle size – Water	(0.2 up to 1000) micron
Particle size – Oil and Fuel	(3 up to 1000) micron
Particle size – Air	(0.01 up to 100) micron

[1] This laboratory's scope contains withdrawn methods. As a clarifier, this indicates that the applicable method itself has been withdrawn or is now considered "historical" and not that the laboratory's accreditation for the method has been withdrawn.

Accredited Laboratory

A2LA has accredited

SGS NORTH AMERICA INC.

Grass Lake, MI

for technical competence in the field of

Mechanical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated April 2017*).

Presented this 22nd day of July 2024.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 1362.01
Valid to August 31, 2026

For the types of tests to which this accreditation applies, please refer to the laboratory's Mechanical Scope of Accreditation.