Hilliard
HilCO™ FILTRATION DIVISION

HILCO™ Laboratory Services

Protecting your investment. Protecting you.

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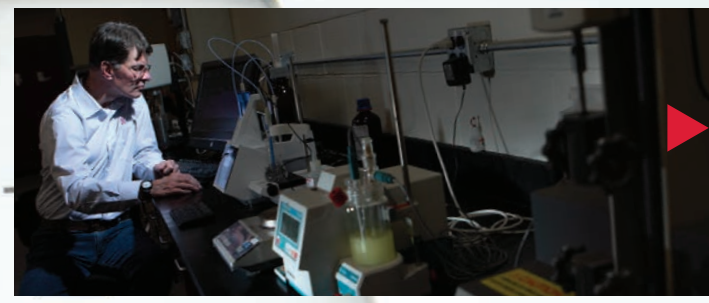
Northeast Filter



Hilliard
HILCO® FILTRATION DIVISION

The Hilliard Corporation's HILCO™ Filtration Division has over 90 years of experience designing cutting edge industrial filtration systems, operating a world-class laboratory, and developing customized filtration solutions.

Our long-standing relationships with industry leaders, combined with our technologically advanced filtration systems, experience, and rigorous testing standards, dictates our unparalleled standard of excellence.

Hilliard HILCO FILTRATION DIVISION

Our world-class laboratory services

Our world-class laboratory services expand beyond common industry-standard tests. We dive deeper and deliver more than just data. We accurately gather and analyze data; consistently recognize and understand target problems; and successfully design custom solutions that ensure the safety, quality,
and reliability that you expect from an industry-leading collaborator.

We aim to go above and beyond compliance. We push for excellence, and we deliver. We dedicate ourselves to protecting your investment. We are committed to protecting you.

Your equipment is crucial in delivering to your customers. You've invested your time and money to be the best, and we want you to remain at the top. We won't stop working to guarantee you stay there. Our laboratory evaluations and solutions help you deliver exceptionally each and every time.

The Hilliard Corporation's HILCO Laboratory Services executes superior testing that supports industrial filtration and fluid analysis, delivering custom and optimal solutions that extend the life of the equipment used in industrial processes.

Here's What It Means For You

We are the proving ground for the system you invest in and trust to protect your vital processes from wear and downtime due to contamination and incomplete filtration. We are dedicated to going above and beyond to ensure you remain wat your best.

Catering to a multitude of industry applications, we have the expertise to keep you at the top of the industry.

- Chemical and Petrochemical Processing
- Industrial Gross Solids Removal
- Material Handling
- Mid-Stream Gas
- Oil and Gas
- Power Generation
- Refinery
- Wastewater

Anywhere from testing to development, we are your full-solutions provider.

We measure resistance versus flow rate to quantify the resistance of flow to a given filter element, helping determine the effects of pressure loss in their systems when using a given filter.

Filter Cartridge Testing:

At the heart of any filtration and reclamation system is the filter. A filter is only as good as the media that performs the filtering task. The Hilliard Corporation's HILCO Laboratory Services tests provide critical physical properties of the filter media used in production cartridges and the evaluation of potential new media.

Our extensive range of tests provides us with crucial information that allows us to fingerprint your filter cartridge or system when benchmarking its performance characteristics and efficiency.

This information allows us to evaluate the current or potential problem and then design customized and optimized solutions to ensure you have the quality and reliability needed to remain at the top of your game.

By leveraging the following tests, we keep you operating at your best:

Performed Test	Test Standard
Low-Pressure Integrity/Collapse Test	ISO-2941
High-Pressure Integrity/Collapse Test	ISO-2941
Static Discharge Test	ASTM-D2624
Mist Eliminator (VME) Test	ISO-14644
Multi-pass Test	ISO-16889 / ISO-4572
Water Stand Test	NFPA T3.10.19
Pressure vs. Flow Rate (Low & High Flow)	ISO-3968

We can keep you functioning at the highest level

Low-Pressure Integrity/Collapse Test: Evaluates the integrity (failure) differential pressure of the materials used in any low pressure (under 200 psid) designed filter cartridge.
Solution / Benefit
- Achieves ISO-2941 industry test standard
- Ensures the filter meets compliance specifications and design parameters
- Guarantees effective performance during filtration

High-Pressure Integrity/Collapse Test: Another test that evaluates the integrity (failure) of filters, but uses high differential pressure ratings, up to 3000 psid to determine the pressure at which the material is destroyed from outwards in.
Solution / Benefit
- Achieves industry test standard ISO-2941
- Ensures the filter cartridge components will provide sufficient strength if a sudden change in pressure occurs
- Eliminates potential system failure by preventing the release of contaminants

Static Discharge Test: Measures fluid conductivity, allowing us to evaluate the reservoir design.
Solution / Benefit
- Achieves industry test standard ASTM-D2624
- Can be viewed in real-time
- Measuring the static discharge voltage and the frequency in which it occurs, enables the evaluation of different fluid conductivities, filter systems, and filter designs
- Ensures the filter cartridge and media has minimal electro-static discharge (ESDs) occurrences
- Maximizes the lifespan of the fluid and the filtration system
- Used to support development work and evaluate competitor performance

Mist Eliminator (VME) Test: Evaluates the level of contaminants from air emissions that evolve as mist droplets. Our VME test allows us to fingerprint current products with real-time data, including efficiencies and pressure drops versus flowrates.
Solution / Benefit
- Achieves industry test standard ISO-14644
- The solution can be viewed in real-time
- Ensures the elimination of toxic air emissions occurrences, helping to protect the environment

Multi-Pass Test: Tests filter performance by determining contaminant capacity, particle removal levels, and differential pressure characteristics of filter elements.
Solution / Benefit
- Achieves industry test standard ISO-16889 and ISO-4572
- Used to support development work and evaluate competitor performance
- Materials evaluation for filter cartridge designs

Water Stand Test: Evaluates filter performance similar to the Multi-Pass Test, except instead of using a solid contaminant, it uses free water to determine contaminant capacity, moisture removal levels, and differential pressure.
Solution / Benefit
- Achieves industry test standard NFPA T3.10.19
- Used to support development work
- Evaluates dryer cartridges

Pressure vs. Flow Rate (Low & High Flow): Determine the differential pressure across filter cartridges, filtration equipment, valves, vessels, and assemblies at different flowrates and viscosity levels. We use flow capabilities that range from 0-1,200 GPM at a viscosity range of 50 sus to an excess of 3000 sus.
Solution / Benefit
- Achieves industry test standard ISO-3968
- Used to develop, design, and size filtration systems

Determining the efficiency of a filter and its holding capacity, requires a very precise test. We use ISO-16889 to determine a filter's DNA.

Our Multi-Pass test stand is used following ISO-16889 and ISO-4572 standards to evaluate filter cartridge performance, such as particle removal capabilities, apparent capacities, time-weighted cartridge Beta ratios, and efficiencies.

Fluid Sample Analysis:

The Hilliard Corporation's HILCO Laboratory Services Deveopmental Engineering Fluid Analysis utilizes a wide range of tests to evaluate a fluid's condition; the quantity and types of contaminants in the fluid; and the physical properties of the fluid.

Contaminants in process fluids can lead to extreme wear on a system causing lower productivity and reliability, which can negatively impact revenue. Our in-depth process of analyzing fluid gives us the information needed to deliver "like-new" fluid restoration.

We can extend fluid use, increase system life, and maximize productivity, saving you time and money, and keeping you as an industry leader.

We engage in the following tests to ensure you continue to operate at your best:

Performed Test	Test Standard
Viscosity Brookfield/Saybolt	
Water and Sediment	ASTM-D96
Water Distillation	ASTM-D95
Gravimetric Level	ARP-785
Moisture Content	ASTM-1744
Neutralization Number	ASTM-D664
Pentane Insoluble	ASTM-D893
Benzene Insoluble	ASTM-D893
Flash Point	ASTM-D92
Dielectric Breakdown	ASTM-D1816
Interfacial Tension	ASTM-D971
Precipitation Number	ASTM-D91
Water Separability	ASTM-1401
Conductivity	ASTM-D2624
Varnish Potential (MPC) Color	ASTM-D7843

We have the expertise to determine the needed tests and the specialized tools to precisely and accurately analyze your fluid, based upon the service the fluid is being used in, and the specific fluid type.

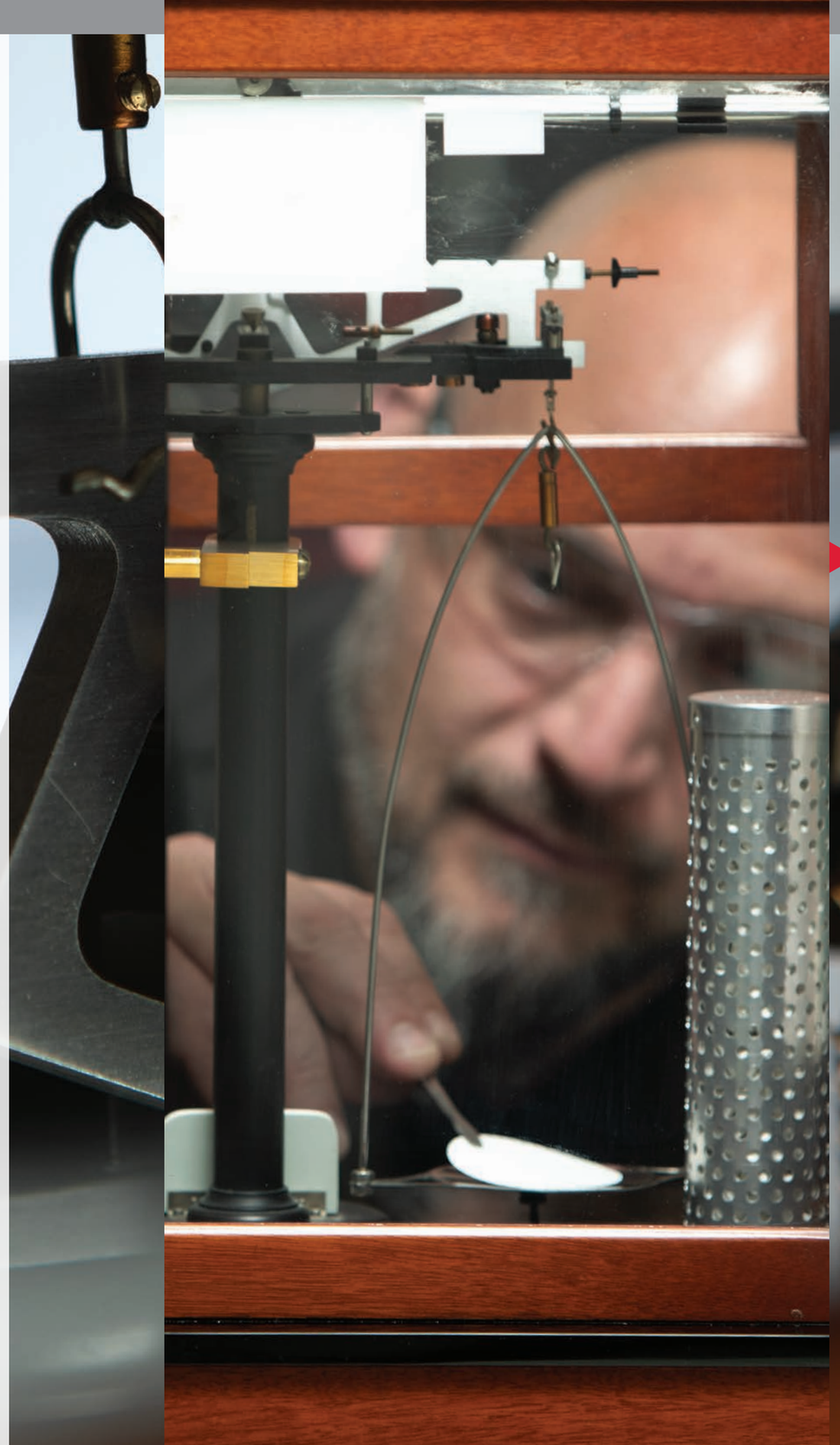
Our specialized tools provide detailed measurements enabling us to deliver the perfect solutions

Portable Oil Diagnostic System (PODS): Allows us to count particles and measure the particle size per industry standards and individual customized evaluations.

Solution / Benefit

- Achieves six different industrial standards: ISO-4406 for NIST/ ISO-11171, ISO-4406 ACFTD/ISO-4402, NAS-1638, SAE-AS4059, MIL-STD-1246C, NAVAIR 01-1A-17
- Performed on HACH ULTRA Portable Oil Diagnostic System (PODS)

Spectrophotometer: RM200QC MPC Color Test, measures lubricant generated insoluble color bodies in in-service turbine oils using membrane patch colorimetry (varnish potential).



Precise analytical balance used in gravimetric level per standard ARP-785

Filtration Media and Material Testing:

We take pride in our standard of excellence, and we uphold these standards by using an assortment of tests to provide valuable information and solutions to ensure the highest quality in filter media and cartridges.

The Hilliard Corporation's HILCO Laboratory Services can identify critical physical properties of the filter media used in production cartridges, as well as the evaluation of potential new media to provide filter manufactures with the information needed to save them time and money while delivering supreme quality.

Portable Oil Diagnostic System provides a particle count and meets all types of SAE, NAS, and ISO codes.

We utilize the following tests to commit to your success:

Performed Test	Test Standard
Basis Weight	ASTM-D3775
Frazier	ASTM-D737-69
Bubble Point	ASTM-F316-70
Thickness	ASTM-D645
Corrugation Depth	
Mullen	TAPPI T-403 OS-76
Tensile	TAPPI T-494 OM-81
Stiffness	Gurley
Flat Sheet Multi-Pass	ISO-4406/ISO-4572

Our team delivers

Precise analysis

Expert knowledge

Custom solutions

Trusted answers

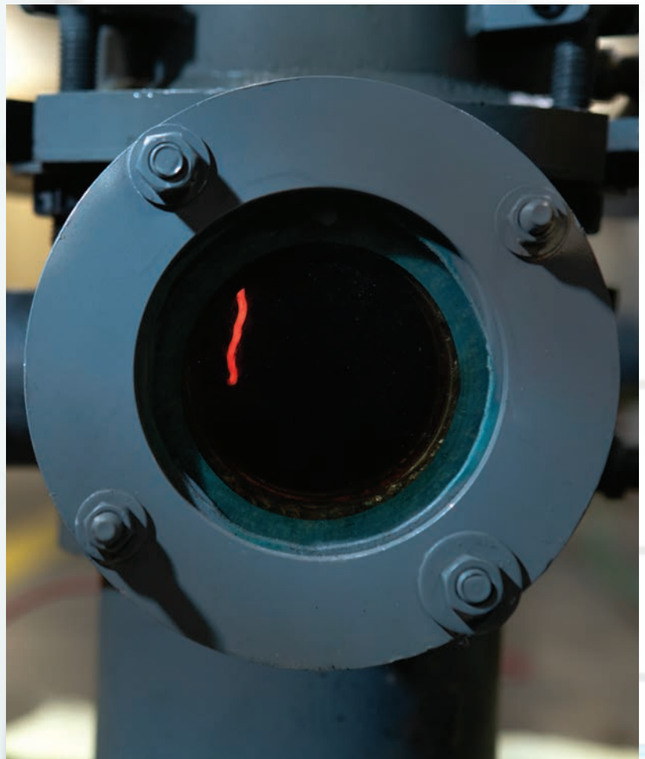
By working with our expert team of science engineers, you will achieve

Maximum reliability

The highest quality

Greater productivity, and

Increased longevity



Static Discharge Test measures fluid connectivity levels in the filter cartridge's, materials, and fluid.

Hilliard HILCO FILTRATION DIVISION

Conclusion:

Since 1905, The Hilliard Corporation has been a reliable provider of the highest quality industrial products. The Hilliard Corporation's HILCO Laboratory Services is committed to supporting continuous improvement in the testing of vessel designs, cartridge configuration, and cartridge components. We provide customized and optimized solutions to liquid fuel filtration; fluids filtration and reclamation; and conditioning testing that will ensure your equipment's reliability.

We work hard to guarantee you have a trusted team backing you and a full range of solutions supporting your bottom line. Our number one goal is you, protecting your investment and protecting you.

We are your full-solutions provider. To find out more about The Hilliard Coroporation's HILCO Laboratory Services or to receive a quote for your testing needs, contact us today.

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