Energy efficiency and performance testing of professional and commercial appliances

Empowering Trust™

UL's Performance and Energy Efficiency Laboratory in Europe.

Our Performance and Energy Efficiency Laboratory in Italy is a leading European testing operation. We have more than 20 years experience in the global appliances industry and collaborate closely with major brands and manufacturers.

We provide independent, comprehensive energy efficiency and performance testing based on global and customized requirements for refrigeration appliances, washers and dryers, dishwashers, and cooking appliances.

With our large, state-of-the-art climatic test chamber – specifically developed for professional and commercial refrigeration products – we can test the performance and efficiency of products under high-stress conditions.

Contact us to find out how we can support your product development or compliance process.

EU Energy Label / Eco Design Directive

US DOE / Energy Star®

NRCAN Natural Resources Canada

Energy Efficiency Testing

Access to European, North American and global markets, from one local testing laboratory.

Washing Laboratory

Refrigeration Laboratory, Climatic Test Chamber

Cooking Laboratory

Performance Testing

Market Surveillance Testing

Benchmark Testing

Keep up with the European and North American energy regulations for professional and commercial refrigerated cabinets.

With more than 100 years of experience in the global appliances markets, our laboratory team can help you understand the changing regulations, manage the growing need for product testing, and meet the increasingly demanding test conditions such as horizontal airflow. We assist you in testing and verifying product compliance – so you can make product adjustments in time.

Ready for North America?

Commercial refrigeration products to be sold in the U.S. are increasingly confronted with a changing regulatory landscape. From new U.S. Department of Energy (DOE) standards and greener refrigerant alternatives required by the Environmental Protection Agency (EPA), to the introduction of alternative methods to calculate system efficiency and simulate refrigeration system performance for test purposes.

Regulatory and industry requirements

Mandatory DOE requirements: 10 CFR Part 431 Subpart C-Uniform test method for the measurement of energy consumption of commercial refrigerators, freezers, and refrigerator-freezers. Tests must be conducted in an ISO 17025 third-party lab or in a manufacturer's own lab, proven that its equipment can meet the testing tolerances required.

Voluntary ENERGY STAR® Program Requirements for Commercial Refrigerators and Freezers - Eligibility Criteria Version 4.0

CAN/CSA-C657-04 - Energy Performance Standard for Refrigerated Display Cabinets

Prepared for the EU energy regulation updates?

Professional refrigerators

All refrigerated storage cabinets and counters for professional use in commercial kitchens, hospitals, canteens, preparation areas of bars, bakeries, gelateria, institutional catering and similar professional areas for sale within the European Union (EU) are subject to eco-design and energy-labelling requirements. According to the European Commission (EC), all such appliances must carry a label indicating their energy efficiency on a scale from A (most energy efficient) to G (least energy efficient).

Beginning on 1 July 2019, however, this scale will be officially extended to differentiate higher-efficiency classes (A+, A++ and A+++). The EC has announced that, in time, classes F and G will lose their validity for sale within the EU.

Energy label and ecodesign requirements

Commission Delegated Regulation (EU) 2015/1094 of 5 May 2015 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to the energy labelling of professional refrigerated storage cabinets

Commission Regulation (EU) 2015/1095 of 5 May 2015 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to eco-design requirements for professional refrigerated storage cabinets, blast cabinets, condensing units and process chillers

Commercial refrigerators

In order to keep pace with existing energy efficiency regulations, a new EU Eco-design & Energy Labelling Regulation will come into force in March 2021, specifying requirements for labelling and the provision of additional product information for commercial refrigerators with a direct sales function.

These are commercial refrigerated display cabinets with one or more compartments for the sale and presentation of refrigerated and frozen foodstuffs, which are kept within prescribed temperature limits, cooled by natural or forced convection through one or more energy consuming means – directly accessible through open sides or through one or more doors or drawers.

These include supermarket refrigerators or freezers, beverage coolers, small ice freezers, gelato-scooping cabinets and refrigerated vending machines, remote and integral cabinets, as well as refrigerators used for storage or assisted serving that are not accessible to customers, and appliances for cooling of non-food products.

Energy label and ecodesign requirements

Commission Delegated Regulation (EU) 2019/2018 of 11 March 2019 supplementing Regulation (EU) 2017/1369 of the European Parliament and of the Council with regard to energy labelling of refrigerating appliances with a direct sales function

Commission Regulation (EU) 2019/2024 of 1 October 2019 laying down ecodesign requirements for refrigerating appliances with a direct sales function pursuant to Directive 2009/125/EC of the European Parliament and of the Council

Example of an energy label for professional refrigerated storage cabinets

Specifications on the label

Energy efficiency class

Annual electricity consumption in kWh per year

Sum of the net volumes of all chilled compartments functioning at chilled operating temperature

Climate class (3, 4 or 5) together with associated dry bulb temperature (in °C) and relative humidity (in %)

It can be difficult for manufacturers to adapt their product testing capabilities to the increasing regulatory and market requirements. UL can help ease your workload and keep your timelines on track.

Fabio Pozzi, UL Engineering Manager

Meet the latest energy regulations using our state-of-the-art climatic test chamber.

Real-world testing to European and North American requirements

Professional and commercial appliances must function under higher stress conditions than household appliances. The new climate test chamber in our European Performance and Energy Efficiency Laboratory offers all the test conditions required for the EU energy label.

In order to guarantee maximum flexibility and to be able to test all types of cabinets, we have equipped our test chamber with more than 100 temperature sensors, humidity and light sensors, and dedicated electrical parameters, so we can simulate a wide range of temperatures (10°C to 45°C) and humidity levels (up to 85 percent), as well as horizontal air flow.

The chamber provides over 500 kg of test packages and a modular rig designed to open the doors and drawers automatically during testing.

These features allow us to simulate real-life use and measure the product's energy consumption – while keeping the required internal temperatures in each compartment in the declared climatic conditions, as required by the EU standard.

Products we can test
• Professional refrigerated storage cabinets
• Professional vertical cabinets
• Professional counter cabinets
• Commercial plug-in refrigerated appliances
• Household appliances

With 20+ years of experience in the appliances industry, our team of highly specialized engineers can test your product to identified standards or develop customized test programs according to your requirements.

European and North American Testing Standards and Regulatory Requirements

		Europe	North America
	Professional refrigerated storage cabinets	**EN ISO 16825: 2016** **EN ISO 22041: 2019/A1:2019** Refrigerated storage cabinets and counters for professional use	**DOE: 10 CFR Part 431** Subpart C, appendix A, B **ENERGY STAR® Program** Eligibility criteria version 4.0
	Commercial refrigerated display cabinets	**EN ISO 23953-1/2:2015** Refrigerated display cabinets **EN 50597:2018** Vending machines **EN 16901** Ice Cream Freezers **EN 16902** Commercial Beverage Coolers **EN 16838** Gelato Scooping Cabinets	**CAN/CSA C657**

Get further, faster. With UL.

Test your innovations, without limitations.
Our climatic chamber is specially designed to accommodate refrigerated cabinets with large dimensions.

Extend your capacity to test.
As recognized experts, we can help you manage the growing need for product testing and stay up to date on changing regulations.

Outsource highly technical tests.
Our climatic chamber features all the complex, cost-intensive test equipment (like horizontal air flow) required for the EU label.

Develop customized test protocols.
Collaborate with highly specialized engineers to develop customized test protocols to identify and verify the performance of your innovations.

Get business-critical training and insights.
Benefit from a range of training and advisory services specifically developed for engineers, product developers and compliance professionals.

Reach global markets on time.
As globally experienced compliance experts, we help you streamline your testing and certification schedule and get access to all your target markets.

Test the performance and efficiency of professional and domestic refrigeration, washing and cooking products.

We're proud to draw on more than 20 years of experience when helping our European clients verify the performance of their innovations and get ready for global markets.

Rolando Aries, Engineering Leader

Streamline your go-to-market strategy

At UL, we know the global appliances industry inside and out. We offer a cutting-edge understanding of the regulatory landscape and critical business intelligence to help you make informed decisions, optimize your products' efficiency and performance, and launch your products on time.

Whether you're looking to test your prototypes under customized conditions, outsource highly technical tests, or train your product developers on the ins and outs of regulatory compliance, you'll find it all here at UL's Performance and Energy Efficiency Laboratory in the Milan area, Italy.

Our accreditations

The Performance and Energy Efficiency facility is ISO/IEC 17025 accredited and recognized as CB Testing Laboratory (CBTL) according to the IECEE CB Scheme category E3 "energy efficiency" standard – providing CB reports to UL as a National Certification Body (NCB). We can test your appliances to the relevant EN and IEC standards, and a wide range of other national and international standards.

To see the most-current list of standards under which our facility is accredited, visit: https://www.iasonline.org/wp-content/uploads/2017/05/TL-611-Scope.pdf

Tailored tests, beyond energy efficiency

The vast experience of our engineering team enables us to tailor our testing services to your needs, test to your internal protocols, or develop individual test programs for verifying your specific requirements.

All tests are performed under controlled temperature, humidity, air-circulation and water-supply conditions – managed by a recording system that ensures that all standard parameters are met. We also regularly take part in round-robin tests, aimed at harmonizing the methodology of different laboratories.

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Washing machines and dishwashers

The laboratory is fully equipped according to the requirements of the standards, including the necessary reference machines for washing, drying and dishwashing. Three separate water treatment systems allow simultaneous testing to three different standards.

Testing includes: energy/washing/drying/spinning efficiency, water consumption and spinning speed tests of washing machines, energy/washing/drying efficiency tests of dishwashers

Refrigeration products

Our insulated test rooms are equipped with air conditioning and the possibility of controlling temperature, humidity and air circulation speed enables us to offer a wide range of energy efficiency and performance tests.

Testing includes: energy efficiency, freezing capacity, storage test temperature, rising time and mechanical tests

Cooking products

Insulated test rooms with controllable temperature, humidity and air circulation speed allow a wide range of performance and energy efficiency testing.

Testing includes: measurement of energy consumption in all cooking modes

Databases

AutoQuotes

Product platform for the foodservice equipment and supplies industry

For over 30 years, AQ has been the most trusted and most used platform for manufacturers to list products and increase sales. With tens of thousands of users who use AQ software to configure, price, quote products, as well as integrate them into designs, listing your products on AQ is the number one way to break into the North American or U.K. markets.

Together, UL and AQ have partnered to bring access to the Commercial Food Service Equipment (FSE) Market in North America and Europe. Now, you can certify your products with UL to ensure they meet proper standards and automatically list them in AQ to get immediate sales results in North America and Europe.

For more information visit aq-fes.com

We are investing in digital transformation across the enterprise to increase the value and relevance we offer to customers and industries.
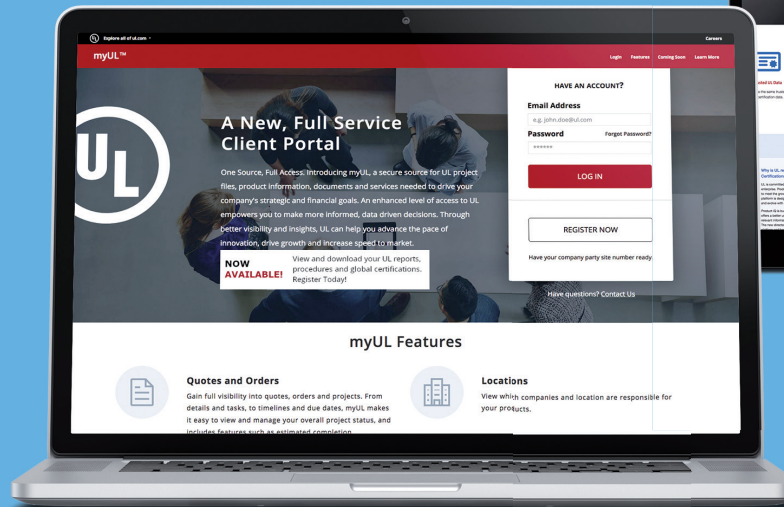
Domenico Chicco, Senior Business Development Manager at UL

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View the date, factory representative, type of product inspected, type of business, inspection center and any variation notices linked to your reports.
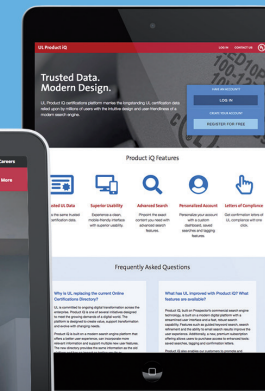
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Promote or locate UL Certified products

UL Product iQ™ certifications platform (formerly the UL Online Certifications Directory) contains UL Listed, Classified or Recognized products and components.

This state-of-the-art search engine creates premium value for users by helping them both identify safer, more compliant products and also promote their UL certified products to potential buyers. Product iQ™ is considered an invaluable resource by thousands of regulatory authorities, building owners and insurance companies.

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Marketing Claim Verification

Add credibility to your claims with the UL Verified Mark

In today's highly connected, transparent marketplace, verification of marketing claims plays an increasingly crucial role in the decision-making process of buyers and consumers. We help brands and manufacturers gain an advantage over the competition and give buyers the confidence they need by bringing credibility to sellers' claims.

Our science-based, customized process verifies the accuracy of marketing claims related to the performance, functionality or features of products, facilities, processes and systems.

Verify.UL.com

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