energy efficiency

Thermo Scientific Laboratory Equipment

Leadership performance with maximum efficiency and cost savings

Fisher Scientific

Thermo SCIENTIFIC

Intelligent product design.
It's a defining commitment we make
to our customers and the environment.

green

It takes a lot of experience to be really green at what you do.

We invest significant resources to ensure that our products deliver unmatched performance with maximum efficiency. The result: industry-leading equipment that uses considerably less energy while protecting our customers, their valuable samples, and the natural environment – all with lower operating expense.

We're proud of our achievements in building energy-saving products, and pleased to share – in words and numbers – the advantages you gain with our laboratory products.

Thermo Scientific
Biological Safety Cabinets

Advanced ergonomics and operating efficiencies for you and the environment

Thermo Scientific
Ultra Low Temperature Freezers

High efficiency with low energy consumption

Thermo Scientific
General Purpose Centrifuges

Spinning capacity and technology into real energy savings

Thermo Scientific Biological Safety Cabinets

Our technology provides the safest, most reliable and energy efficient biological safety cabinets available.

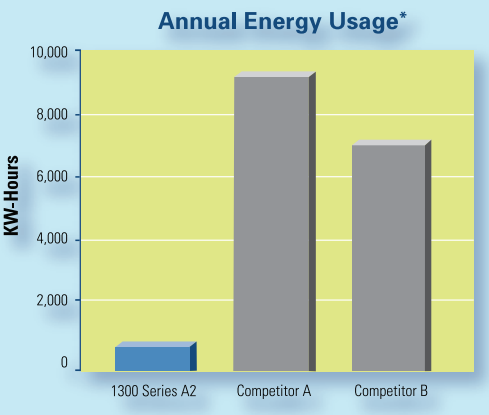
Good for You, Good for the Environment

The Thermo Scientific 1300 Series A2 biological safety cabinet offers significantly **lower energy consumption and heat emissions** than traditional cabinets, reducing your energy and laboratory air conditioning costs.

Our advancements in brushless DC motor technology dramatically improve energy efficiency. During low usage, an intelligent controller automatically reduces blower speed to 30% when the cabinet window is closed. This unique technology extends HEPA filter usage life, ensures a sterile working environment, and **minimizes energy and operating costs**.

Savings based on typical use and cooling assumptions of non-vented biological safety cabinets	Thermo Scientific 1355	Alternatives	
		A	B
Power consumption in normal operation (fan and lights on)	196 watts	851 watts	564 watts
Power consumption in night set-back mode (fan at reduced speed, if possible, and lights off)	32 watts	759 watts	464 watts
Annual energy consumption in kilowatt-hours, assuming 2,000 operating hours per year with the remainder (6,736) in maintenance mode	608	6,815	4,254
Additional annual energy consumption for cooling in kilowatt-hours consumed by the A/C to cool the operational BTUs, assuming a seasonal energy efficiency rating (SEER) of 10	207	2,325	1,451
Total annual operating cost for operation and cooling, assuming average price (10.15 cents/kWhr) for the YTD ending June 2009	$82.71	$927.70	$579.04
Annual CO_2 emissions calculated using 1.19lbs CO_2 kWh from APPA generation and emissions data for 200; EIA Annual Energy Review 2001, tables 8.1, 12.2	970 lbs	10,876 lbs	6,930 lbs
Annual savings in electricity and emissions per unit		**$844.99 and 9,907 lbs CO_2**	**$496.34 and 5,819 lbs CO_2**

See http://www.eia.doe.gov/cneaf/electricity/epm/table56b.html



Thermo Scientific Ultra-low Temperature Freezers

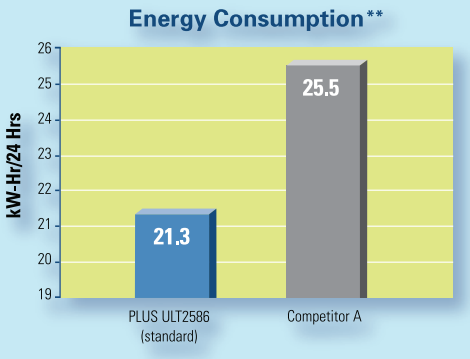
Our Revco PLUS ultra-low temperature freezers set new industry standards for energy efficiency, due to their unique design and construction.

Superior Performance is in the Details

- *Heavy gauge steel construction*
- *CFC-free blown insulation that completely fills all voids (5 inches in unit walls, 4 inches in doors – more than any other competing unit)*
- *Oversize door hinges to withstand thousands of door opening without deflection*
- *Powder-coating on all surfaces to ensure long-life*
- *Highest quality gasket construction for years of dependable door sealing*

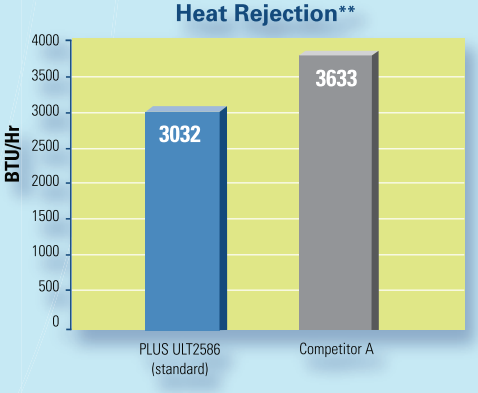
As a result, our ultra-low temperature freezers achieve unmatched operational efficiency, **consuming approximately 15% less power** to maintain cabinet temperature compared to other competing freezers. Our Revco PLUS freezers also **rejects approximately 15% less heat** into the laboratory environment than competitive freezers, minimizing air conditioning costs.

Thermo Scientific Revco PLUS consumes approximately 15% less energy than competitive freezers



Thermo Scientific 1300 Series A2 provides significantly lower energy consumption than competitive offerings

** Assumes 2,000 operating hours per year, based on internal performance data; remaining hours in reduced flow mode*



Thermo Scientific Revco PLUS rejects approximately 15% less heat into the environment than competitive freezers.

Thermo Scientific General Purpose Centrifuges

Thermo Scientific Sorvall general purpose centrifuges turn innovative system and rotor design into significant energy savings our competitors can't match.

Advanced Technology for Better Efficiency

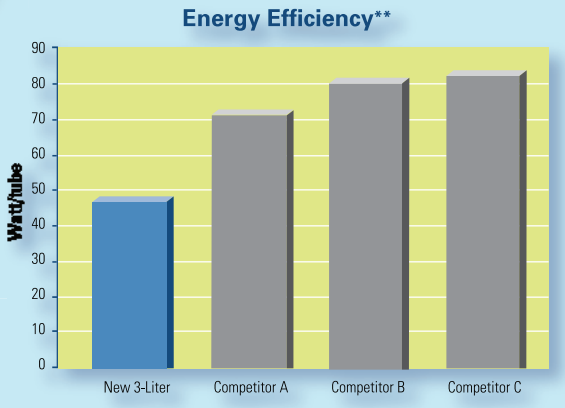
Larger capacity simply translates into fewer runs required for a given batch of samples. Over the life of a unit, average run reduction of **30-50% saves an enormous amount of energy**, and also time, for the user.

Sorvall® general purpose centrifuges also consume less energy per tube – **30-40% fewer watts per tube** than competing models.

Additional design features place Sorvall general purpose centrifuges in a green category of their own. For instance, our unique "powersave" feature turns the display off when not in use, resulting in a **15% energy savings** compared with standard stand-by power consumption.

Thermo Scientific Fiberlite rotors, constructed with advanced carbon fiber composites, also contribute substantially to **longer rotor lifetime – guaranteed 15 years – reducing capital investment** and avoiding unnecessary equipment disposal issues. During the lifetime of a carbon fiber rotor, metal rotors will need to be replaced an average of 2.5 times – at considerable expense both to the user and the environment.

Thermo Scientific Sorvall general purpose centrifuges use up to 40% fewer watts per tube compared with leading competitors.



**All graphs based on internal performance data.

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To fax an order, use 1-800-926-1166.
To order online: www.fishersci.com

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