When looking to purchase green laboratory equipment, one should first analyze the energy efficiency of the product in use. In addition, it is important to consider factors that go into production and delivery as well as the product's effect on your other building systems.

Beyond the Lab: The Full Portrait of Efficiency

▶ When you think of laboratory equipment being environmentally friendly, energy-efficient performance first comes to mind. For laboratory glassware washers, low water consumption is the first consideration. For example, less water use translates into lower electrical costs for heating that water, less detergent for cleaning, and less effluent flows into the waste stream.

Miele engineers products that are geared for low water consumption and energy efficiency. But, as you will see, the company takes this a step further and considers the entire process. Design, manufacturing, logistics, delivery, and finally, product use are all essential pieces of the puzzle. Even our production plants are DIN EN ISO 14001 certified with a valid environmental declaration.

Responsible manufacturing…

Glassware washers are composed of 90% metal. Using high levels of stainless steel boosts our performance throughout the duty cycle. All plastic components are clearly marked to facilitate recycling at the end of the equipment's life cycle. And those life cycles are long to reduce the need for frequent machine replacement. Miele glassware washers are manufactured to last through 15,000 operating hours. A typical machine may run six hours a day, five days a week, translating into 10 years of operating life, with many lasting far beyond this time frame.

We also take pride in our Earth-friendly packaging. From 1996 to 2005, Miele has reduced total consumption of packaging materials for transport and sales by 19.8%, despite a 53.2% increase in production. We use recyclables such as corrugated cardboard, polyethylene foil, untreated solid wood, and expanded polystyrene with 90% of its volume being air and only 2% polystyrene—a pure hydrocarbon. We also participate in packaging return where regulated.

A range of glassware washers from Miele is geared for low water consumption and energy efficiency.

…Leads to considerable energy savings

When the end product finally reaches its destination, several components keep working in favor of the laboratory and its natural surroundings. When things heat up, integrated forced-air drying conserves electrical energy as compared with drying ovens. The availability of phase convertible electrical connections, from single- to three-phase, increases electrical efficiency by reducing heating time. In addition, each of our glassware washers is equipped with flow meters to measure incoming water, allowing for varying fill amounts and thus translating into maximum water efficiencies. Our large-capacity washers are convertible for steam water heating, which is more efficient than electrical heating. Wash chambers are also thoroughly insulated to minimize heat loss and to provide quiet operation. Minimal heat loss means lower electrical costs but also less heat load for the building's HVAC system to overcome.

In sum, when looking to purchase green laboratory equipment, one should first analyze the energy efficiency of the product in use. In addition, it is important to consider some of these other factors that go into production and delivery as well as the product's effect on your other building systems. With a little consideration comes a healthier environment.

Resources:

▶ **Miele**, Princeton, N.J., 800-991-9380, **www.miele.com**