

Thermostatic Chambers for Precise Temperature Control

Thermostatic devices produced by POL-EKO-APARATURA are high quality chambers that allow users to keep the precise required temperature in practically every condition.

Stationary and portable chambers are available in a wide volume range from 15 up to 1200 litres and allow samples to be stored at temperatures from -40 to 300 °C. In standard versions, temperature is controlled through a temperature sensor built inside the chamber. An additional option offers a very interesting solution: an additional and independent temperature sensor. The sensor is on the cable, plugged into the control panel. Such a solution let's users measure temperature at a chosen point of the chamber. In the device's menu, users are able to choose which temperature sensor controls the device. With an additional temperature sensor the chamber's temperature can also be controlled according to the current temperature of the sample in which the sensor is placed.

POL-EKO-APARATURA incubators are the first devices of this kind on the world market to have been equipped with Ethernet. It gives users a chance to connect them by network and control this network and each device separately through the Internet regardless of location. Furthermore, it is possible to incubate very heavy samples (e.g. concrete blocks) because of the special strengthened chamber versions. Strengthened chambers can hold up to 300kg! As an option chambers may be equipped with humidity monitoring and control as well as lighting installed either on the side walls or under the shelves. Shelf construction guarantees steady lighting of samples and a special controller allows control of both time and illumination intensity.



Circle no. 148

Economical Recirculating Cooler Provides Quiet Heat Removal

An efficient and reliable liquid-to-air recirculating cooler that provides exceptionally economical heat removal for laboratory equipment and procedures is available from PolyScience. Intended for applications where the cooling fluid temperature is higher than ambient and control is not required, the Model 3370 Recirculator provides 4000 watts of cooling capacity at 20°C (68°F) and can handle liquid temperatures as high as 77°C (170°F). As a result, it offers significant cost-savings over mechanically refrigerated circulators.



Designed for simple operation and maintenance, the Model 3370's positive displacement or turbine pump circulates fluid to the equipment, back into a reservoir, and through a fan-cooled radiator, which removes heat. A built-in low-liquid level indicator safeguards the reservoir and circulation system. The pump and cooling system are further protected with reusable filters. In addition to long life and easy maintenance, the Model 3370 Recirculator is also extremely compact. Measuring just 22.25 x 15 x 22.5 inches (56.5 x 38.1 x 57.2 cm), it requires only slightly more than 2¼ sq.ft. of floor or bench space.

Circle no. 149

Environmentally Friendly Energy Efficient ULT Freezers

Appleton Woods has introduced the New Brunswick Scientific (NBS) range of Ultra-Low Temperature (ULT) Freezers to its product supply. The range includes the new Innova and Premium series of hydrocarbon propane/butane-based -86 °C freezers - the most environmentally friendly, energy efficient ULT freezers available.

The new hydrocarbon models from NBS, Innova U725-G and Premium U570-G, have the same advanced features as the original Innova U725 and Premium U570 freezers models, but consume 5-10% less power. HFCs (hydrofluorocarbons) are a known greenhouse gas, so by switching to a hydrocarbon propane/butane-based refrigeration system, NBS can offer an environmentally friendly, energy efficient ULT freezer, while maintaining safety and reliability.

All of the NBS freezers are exceptionally energy efficient, consuming roughly half the power of other similarly sized ULT freezers. All are CE-certified, meet WEEE Directives for disposal and are 95-98% (by weight) recyclable. Water-cooled models are also available for even greater energy savings.



Circle no. 150

The NEW Recirculating Coolers from JULABO.

Save precious tap water.
Protect the environment.

Cooling capacity
up to 11 kW!

NEW!

Benefits

- ▶ Working temperature range -20°C...+40°C
- ▶ Permissible temperature in return line +80°C
- ▶ Cooling capacities from 0.3 to 11 kW
- ▶ PID temperature control, ±0.5°C
- ▶ Powerful immersion pumps capacity up to 60 l/min, 6 bar
- ▶ Filling level and pressure indicator
- ▶ No side vents
- ▶ Easy filling from the top
- ▶ RS232 interface for PC connection



The new generation of recirculating coolers/chillers for various cooling tasks in laboratories and industries. 20 models of the 'FL' series with state-of-the-art technology offer innovative solutions for nearly all applications.

For more information please visit www.julabo.de or request your free catalog at Phone +49 7823 51-190.

www.julabo.de

INNOVATIVE TEMPERATURE TECHNOLOGY

Julabo

JULABO Labortechnik GmbH • 77960 Seelbach/Germany • +49 7823 51-0 • +49 7823 2491 • info@julabo.de

Circle no. 151

Versatile Freeze Dryers Sets Benchmark

Genevac has announced the introduction of the VirTis Genesis Freeze Drying System offering unmatched versatility for pilot, research or small-scale applications.

The Genesis range sets a new benchmark for design and capabilities. Allowing for easy and intuitive scale-up from research, the Genesis makes the perfect pilot scale freeze dryer. The compact, freestanding, mobile design enables the system to be optimally configured to almost any freeze-drying application. New ergonomic profiling allows easy inspection of the vacuum pump and facilitates quick and trouble-free oil changes. For applications where a sterile environment is critical, an easy-to-install clean room version of the Genesis is also available.

The product chamber, shelves and condenser chamber are made of durable 316L stainless steel, with a squared product chamber that ensures easy cleaning and maximum shelf area. A 4-inch diameter port increases vapour flow from the product to the condenser chamber maximising system productivity. Reliable refrigeration systems with proven CFC-free refrigerants allow the Genesis range to achieve a wide range of temperatures enabling freeze-drying of all sample types.

The Genesis has a range of powerful control options that allow every aspect of the freeze-drying process to be monitored and controlled. Multiple stage freezing and drying steps can be programmed to enable the best results to be obtained from any product. Controls range from the simple Wizard 2 microprocessor control system to a fully 21 CFR part 11 compliant PC based control system. The Genesis is available with up to six bulk drying shelves and five vial processing shelves. An expanded range of shelf arrangements, available with a shelf latching kit, allows users to configure it to process a wide variety of vial sizes, with stoppering an option.



Circle no. 152

New Lab Tool Enhances Microplate Solvent Thawing

The new MicroStream™ microplate thawing station from Porvair Sciences Ltd circulates ambient air across the base of a frozen microplate or tube rack to gently and evenly thaw samples without risk of damage.

The majority of compound stores worldwide utilise DMSO as the primary solvent. As DMSO has a freezing point of 18 degrees C, thawing samples from microplates or sample storage tubes is a widely recognised laboratory bottleneck.

Economical, quiet in use and compact, the MicroStream is an ideal addition to a laboratory's microplate or tube rack sample management. Not only does the MicroStream increase laboratory productivity but it also maintains sample integrity protecting compounds during multiple freeze-thaw cycles, reducing the precipitation risk.

Circle no. 153



Space-Saving Temperature-Control Assistants

Space is a scarce commodity in most research laboratories and therefore compact devices for simple performance of tasks that arise are welcomed by laboratory personnel. Julabo is sending four especially compact refrigerated circulators to the starting line. The CF line consists of four refrigerated circulators with small dimensions. Their compact design allows them to be installed within the smallest space or inside a technical apparatus.

With a maximum permissible ambient temperature of +40°C and ventilation air-cooling, operation is possible right next to other devices or directly in the fume hood of a test facility. Four models to choose from - the model line is divided into the 'Economy' line (CF30, CF40) and the 'HighTech' line (CF31, CF41) with cooling capacities up to 470 watts. While the 'HighTech' models have cascade control with a stability of $\pm 0.02^\circ\text{C}$, the 'Economy' models are equipped with a PID controller and have a stability of $\pm 0.03^\circ\text{C}$.

All models have an RS232 interface for connection to a PC. With the free 'EasyTemp' software, this allows recording and visualisation of measurement values. Other notable equipment in the HighTech line includes a 3-point calibration and a Pt100 sensor connection for measurement and control tasks directly in the external temperature-control application.

The integrated programmer allows temperature- and time-dependent processes. Through a real-time clock, processes such as heat-up of the application can be pre-programmed. Wide Range of Applications - All models have pump connections for external temperature-control applications. Typical applications are distillation apparatuses and miniplant systems. The bath opening allows the temperature control of small objects such as sensors directly in the circulator bath. Proven technology, high quality - The Cryo-Compact Circulators are based on the technology of the successful Julabo circulator series. For the user, this means modern microprocessor electronics with the highest temperature stability and comprehensive warning and safety functions. The use of proven refrigeration and pump technology as well as high-quality materials offers the best possible reliability.

Circle no. 154

Ultra-Powerful Compact Chiller

PolyScience's new bench-top L-Series Chiller maximises precious bench space while providing enough heat removal capability to cool two rotary evaporators simultaneously: 400 watts at -10°C . An environmentally friendly and economical alternative to costly tap water cooling, this powerful compact chiller is also well suited to cool chromatography columns plus a wide variety of other separation equipment.

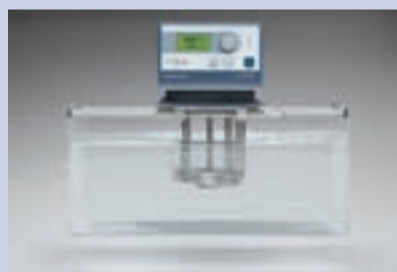
The L-Series Chiller features an operating temperature range of -20° to $+20^\circ\text{C}$, temperature stability of $\pm 0.5^\circ\text{C}$, and single-dial setup and operation. Other standard features include an adjustable high temperature alarm, low flow alarm with power shutoff, top-mounted fill port with built-in fluid filter, washable rigid-frame air filter, and magnetic drive centrifugal pump. The unit measures 44.5 (H) x 24.5 (W) x 66 (L) cm.

Circle no. 155



ADVERTORIAL

Immersion Circulator with Sophisticated Programmable Controller



PolyScience introduces an enhanced immersion circulator designed to provide laboratories with an exceptionally high level of fluid heating flexibility and functionality. Equipped with a sophisticated programmable controller, the Model 7312 Immersion Circulator provides ambient $+5^\circ$ to 200°C temperature control, $\pm 0.01^\circ\text{C}$ temperature stability, and can be programmed with up to ten time/temperature profiles. It's ideal for applications where gradual or multi-step heating is required.

For optimum safety, versatility, and ease-of-use, the Model 7312 features multi-language menus, easy-to-read graphic display, integral over-temperature and low-liquid level safeties, a user-settable high temperature alarm, an RS232 interface, and remote programming, control, and data logging capability. The Model 7312's powerful variable speed pump can be used for internal as well as open or closed loop external circulation. An optional remote temperature probe can be used to provide more accurate temperature control in external circulation applications. The Model 7312 Immersion Circulator is mounted on an expandable bridge capable of spanning user-supplied reservoirs from 38.1 to 63.5 cm wide and occupies an area approximately 19 x 22.2 cm within the bath.

Circle no. 156

PolyScience Temperature Control Solutions

- Precise temperature control for a wide variety of liquid cooling and heating applications
- Reliable and accurate performance
- Simple operation and maintenance
- Exceptional value



Contact Us for Your Nearest Distributor

 **PolyScience**

6600 W. Touhy Avenue
Niles, IL 60714 USA

www.polyscience.com
sales@polyscience.com
847.647.0611 (tel) 847.647.1155 (fax)

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