### RESOURCES

# Liquid handling



#### **Pipette controller**

Rainin's (Emeryville, CA) GlassMaster pipette controller is lightweight and easy to use with all pipettes from 1 to 100 ml; its unique mode selection switch allows the user to select between three aspirate and dispense speeds: low, full, and gravity. GlassMaster is supplied with 0.45 and 0.2  $\mu$ m hydrophobic filters for protection against airborne and aerosol contamination of the controller and cross-contamination of samples, a bench stand, and a charging unit.

Tel: +1 800 4 RAININ Fax: +1 510 652 8876 www.rainin.com RSN: 1111

#### Fluid handling system

Fluoroware's (Chaska, MN) Cynergy system is the first nonmetallic fluid handling system capable of withstanding SIP/CIP cycles. It is ideal for manufacturing metal-sensitive proteins or for handling corrosive chemicals. Translucent tubing (0.25 to 2 inches in diameter), fittings, and adaptors are all available that are compatible with industry-standard fittings. All Cynergy components are made of Teflon PFA, making them resistant to biological growth.

### Tel: +1 612 448 8196 Fax: +1 612 368 8022 RSN: 1112

#### **Memory pipettor**

MAX, from Bel-Art Products (Pequannock, NJ) is the first portable, battery-operated pipetting aid with built-in memory. It provides a full day's pipetting per overnight charge, and an automatic sleep function turns the unit off when it is idle for 15 minutes, while saving the last setting in its memory. It can be programmed for automatic stop during aspiration, step pipetting during dispensing, or regular pipetting. Additional features include an autoclavable pipette holder, a hydrophobic filter to prevent overfilling, and a venting mechanism to protect against chemical corrosion.

Tel: +1 800 4BELART Fax: +1 973 694 7199 www.bel-art.com RSN: 1113



#### 96-Channel pipettor

The Multimek 96 automated 96-channel pipettor from Beckman Instruments (Fullerton, CA) is ideal for platewise microplate pipetting applications including microplate replication, reagent addition, and full-plate serial dilutions. It handles transfers between 96- and 384-well plates on the same work surface and can be configured for standalone operation or integrated into automated systems. Included Multimek Pro software can be used to program method steps and set a wide variety of pipetting parameters.

Tel: +1 714 773 6707 Fax: +1 714 773 8186 www.beckman.com RSN: 1114



#### Automated liquid handler

The Gilson (Middleton, WI) 215 Liquid Handler is an XYZ robot that can accept more than 25 different racks and a variety of tube sizes. Sample throughput is increased, with up to 1,152 samples in 12 standard or deep-well microplates. It is fully programmable for sample preparation, transfer of samples to other analytical instruments, or injection directly to an online HPLC system via an optional injection valve accessory.

Tel: +1 608 836 1551 Fax: +1 608 831 4451 RSN: 1115

## **Fermentation & bioreactors**

### **Centrifugal bioreactor**

Kinetic Biosystems' (Atlanta, GA) CBR 2000 is a patented centrifugal bioreactor that



enables the culture, containment, and concentration of microbe and animal cells in densities from 1,000 to 10,000 times greater than conventional stirred-tank bioreactors. CBR technology features continuous realtime nutrition, aeration, and metabolite removal, resulting in increased cell lifetimes and per-cell productivity.

Tel: +1 404 607 7331 Fax: +1 404 607 1878 info@kinetic-biosystems.com RSN: 1116



#### **Fermentation sensors**

FermProbe pH electrodes and OxyProbe dissolved oxygen sensors from Broadley James (Irvine, CA) are designed for use in fermentation and bioreactor vessels. All FermProbes are maintenance-free, can withstand harsh industrial use, and feature double junction design to prevent premature fouling by the fermentation broth. Accessories include a transmitter with a 4–20 mA output for computer interface or use with an industrial controller. OxyProbes are autoclavable and feature a novel one-piece cartridge construction that allows for easy installation, fast response membrane and modular cathode-anode assemblies.

#### Tel: +1 800 288 2833

Fax: +1 949 829 5560 RSN: 1117