UNIVERSAL PRECAUTIONS

Universal Precautions should be followed on all specimen samples, regardless of whether a sample is known to contain an infectious agent. Laboratories handling specimen samples are advised to comply with applicable parts of the following governmental and clinical standards, or their equivalent in the country of use:

- Centers for Disease Control (CDC), Universal Precautions for Prevention of Transmission of HIV and Other Bloodborne Infections, published 1987, updated 1996
- Clinical and Laboratory Standards Institute (CLSI), GP17-A2 Clinical Laboratory Safety; Approved Guideline - Second Edition, published 2004, ISBN 1-56238-530-5
- Clinical and Laboratory Standards Institute (CLSI), M29-A3 Protection of Laboratory Workers from Occupationally Acquired Infections; Approved Guideline, Third Edition, published 2005, ISBN 1-56238-5674
- Occupational Safety and Health Administration (OSHA), 29 CFR 1910.1030 Bloodborne Pathogens
- International Standards Organization (ISO) 15190:2003, Medical Laboratories – Requirements for Safety

Trademarks

Information subject to change without notice
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Not for use in diagnostic procedures
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Printed in U.S.A.

Warnings

For safety of operating personnel:

Make sure that the equipment is properly grounded. DO NOT operate if it is not properly grounded.

The unit is equipped with a power plug appropriate for the destination country. DO NOT, under any circumstances, remove the grounding prong from the power cord.

Do not run an acoustic treatment with the Acoustic Assembly and sample cover in the UP position or without a water bath - the acoustic system will not work.

If there is any indication that the Safety System is not functioning properly, DO NOT operate the equipment and contact Covaris immediately.

If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

To prevent damage to the equipment:

The instruments are designed to operate in ambient laboratory conditions e.g., 19ºC to 25ºC (66ºF to 77ºF). DO NOT operate the instrument in a cold room environment; the system is designed to operate with a water bath and re-circulating heater/chiller apparatus to control sample temperature.

NEVER run a method without a water bath; this could damage the transducer. The instrument is equipped with a water level sensor to protect the transducer and degassing pump. The system will not allow the degassing pump to operate or the acoustic treatment to start unless an adequate volume of water is detected.

Distilled or deionized water should be used to fill the water bath.

Unless a Water Conditioning System (WCS) is employed, empty the water bath and wipe it dry EVERY day with a lint-free cloth. DO NOT leave water in the tank for an extended time as there is no water filtration or water cleaning system within the apparatus (unless WCS is employed).

Do not employ isopropyl alcohol, ammonia-based or abrasive cleaners on the water tank, as these will damage the acrylic surfaces.

Establish a standard of operation and periodically test equipment, as described in Maintenance (see section 6.0) of this manual.

Loading third party software onto the computer may interfere with system operation. Please consult with Covaris.

5.0 SYSTEM SPECIFICATIONS

Models	E220 *evolution*
Treatment System:	Bench-top; high intensity acoustic transducer, temperature monitoring device, circulation pump, water bath with safety enclosure
Treatment Power:	500 Watts Peak Incident Power, 100 Watts Average Power
Dimensions:	23” W x 30” D x 19” H (59cm x 76cm x 48cm)
Weight:	approximately 110 lbs. (50 kg)
Power Requirements:	100-240 VAC 500 VA maximum, 50-60Hz
Ambient Temp. Range:	19ºC to 25ºC (66ºF to 77ºF)
Ambient Humidity Range:	30% to 70%
Regulatory Labeling:	CE, ETL Mark (for Product Safety), WEEE
Safety:	Complies with Low Voltage Directive 2006/95/EC. Certified to IEC/EN/ANSI/UL 61010-1:2004 and CAN/CSA C22.2 No. 61010-1:2004, 2nd Edition “Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use, Part 1: General Requirements”
EMC:	Complies with Class A Industrial/Scientific/Medical (ISM) equipment under EN 61326-1:2005, EN 61000-3-2:2004 and EN 61000-3-3:1995 for EU EMC Directive 2004/108/EC. Also FCC Part 15 Class A radio emissions requirements for the USA and ICES-003 Class A for Industry Canada.
Water Bath: **Temperature Alarms:**	Distilled or deionized water only Can be programmed from +0.5°C to +55.0°C
Computer:	Notebook computer typical
Operating System:	Microsoft Windows XP SP3, 7 or 8
Application Software:	Covaris SonoLab 7
Data Input:	Keyboard, mouse
Chiller:	Chiller re-circulating system - may be purchased independently or from Covaris. Connect with the 3/8 inch I.D. hoses and quick connect fittings supplied.