

MB-HPL-200

VACUUM HOTPLATE WITH SOFT BAKE FUNCTION



- Exceptional temperature uniformity and accuracy
- Organic layer curing for square substrates up to 200''x 200''
- Soft bake function (lifting pins)
- 3 Operation modes (ambient, vacuum, under pressure purge)
- PLC with central operation panel
- Programmable recipes
- Black anodized, vacuum process chamber
- No temperature shock and no substrate warping
- Available glovebox integrated or as a standalone unit

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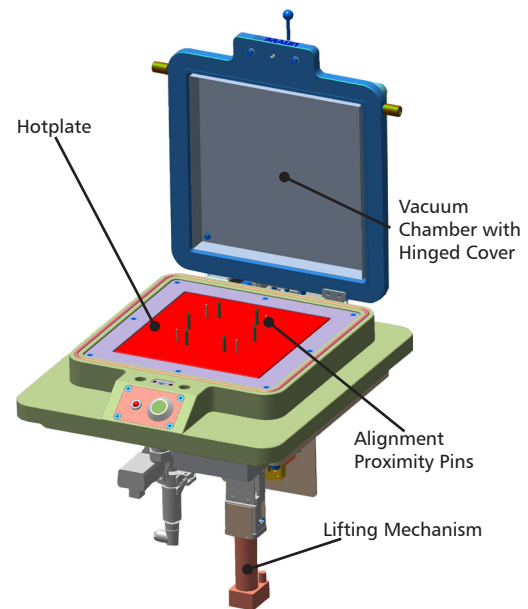
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DESCRIPTION

The MB-HPL-200 is one of the latest designs in the MBRAUN process tool series. The basic function is to cure organic layers under controlled conditions after being deposited onto a rigid substrate. Focused on exceptional temperature uniformity, temperature accuracy, process repeatability and stability whilst offering a high level of flexibility.

The design follows the highest demands in today's OLED/PLED research and manufacturing. The robust design, a menu driven program and a lucid set of adjustable parameters ensure an easy operation even for untrained operators. With a temperature range from 25°C up to 200°C all commonly available organic materials have been cured successfully utilizing MBRAUN's proprietary soft bake function. With this feature common curing problems like "temperature shock" and "substrate warping" are overcome ensuring uniform and repeatable results even in batch manufacturing. The unique feature of this design is the possibility to bake substrates under different environments. In total three operation modes are implemented. An ambient bake mode in which the substrates are heated under pure nitrogen, a vacuum bake mode in which the heating takes places at a pre-defined vacuum level and an under pressure purge mode in which the operator can set a vacuum level and an inert gas flow rate so that the substrates are heated under vacuum whilst the process chamber is purged.

The MB-HPL-200 is available as a bench top (stand-alone) system and as a fully glovebox integrated tool. Both setups feature a black anodized, vacuum type process chamber to minimize reflections and can accommodate samples up to 200 x 200 mm.



TECHNICAL DATA

Dimensions (chamber)	420 x 470 x 125 mm (outside dimensions)
Dimensions (hotplate)	230 x 230 x 20 mm
Substrate size	Maximum 200 x 200 mm
Substrate loading	Manually
Vacuum chamber	Black anodized aluminium
Hinged lid	Blue anodized aluminium with heat shield
Hotplate material	Aluminium cast with electrical heaters
Temperature range	25 - 200°C (emergency shut-off at 250°C)
Temperature uniformity	± 1 % @ 200°C (area 195 x 195 mm)
Temperature accuracy	± 1°C
Vacuum level	< 5 x 10E-2 mbar
Substrate positioning	Pin alignment
Control unit	Siemens S7-300; digital temperature control; actual value and set value are displayed
HMI	Full color touch screen
Proximity heating	Proximity steps adjustable in 20 µm increments (up to 40 steps per recipe); stainless steel pins with ceramic tip; pins are moved with a servo motor
Process modes	Vacuum bake mode at a minimum pressure of 5 x 10E-2 mbar; ambient bake mode at 1 bar; Under pressure purge mode with adjustable vacuum; level and purge gas flow rate

Technical note: Dependent upon operating conditions.

M. Braun Inertgas-Systeme GmbH (Headquarters)
 Dieselstr. 31 • D-85748 Garching • Germany
 Phone: +49 89 32669-0 • Fax: +49 89 32669-105
 Web: www.mbraun.de
 E-Mail Sales: info@mbraun.de
 E-Mail Service: service@mbraun.de

M. Braun Incorporated
 14 Marin Way • Stratham, NH • 03885 • USA
 Phone: +1 (603) 773 9333 • Fax: +1 (603) 773 0008
 Web: www.mbraunusa.com
 E-Mail Sales: info@mbraunusa.com
 E-Mail Service: service@mbraunusa.com