

Product profile

Part number	2016-0516
Article name	BioShake 3000-T
Description	Automation friendly Shaker with heating function. Designed to be integrated in liquid handling and automation platforms to process labware in chemical and biological laboratories.
Recommended use	Automation Shaking Heating Tubes, Vials
Scope of delivery	BioShake 3000-T External power supply Power cords Europe & US 2x screws to mount device (M3 x 18 DIN 912) Calibration certificate Operation & Integration manual
Conforming use	System is operated by qualified and trained research and laboratory personnel. Applicable safety standards or rules need always be fulfilled.
Country of origin	DE
Customs tariff code	8479 82 00

Mixing

Mixing frequency range	200 to 3000 rpm with 1 rpm increment resolution
Maximum frequency*	< 80 g: 3000 rpm < 120 g: 2500 rpm < 150 g: 2200 rpm < 300 g: 1800 rpm < 500 g: 1500 rpm > 500 g: 1000 rpm
Mixing orbit	constant 2.0 mm diameter
Mixing regulation accuracy	± 25 rpm
Accel. / Decel. range	1 - 30 seconds with 1 second increment resolution
Zero position	Locked zero position with ± 0.1 mm accuracy

* Feasible frequency heavily depends on load weight **and** height. **Always** start with low frequencies and iterate upwards.

Temperature control

Temperature range*	RT to 99 °C (RT to 211.82 F) with 0.1 °C increment resolution
Temperature accuracy	± 0.1 °C
Temperature uniformity*	±0.5 K at 45 °C ±0.7 K at 75 °C ±1.0 K at 95 °C
Heating speed above RT*	~ 7 K/min (10 min from 21 to 95 °C)

* Value depends on the used thermo-adapter. Given value conditions: RT = 21 °C, Adapter = 2016-1041, 96-well PCR, adapter temperature

Thermo-adapter plates for different labware

Description	An adapter is required for optimal temperature transfer to and/or optimal fixation of labware and needs to be purchased separately. The adapter can be exchanged by the user.
Microplates	All microplates according ANSI-SLAS format 4-, 6-, 8-, 12-, 24-, 48-, 96-, 384-, and 1536-well microplates, deep well plates, PCR plates
Tubes and Vials	0.2, 0.5, 1.5, 2.0 ml standard tubes 2.0, 4.0, 6.0, 8.0, 10.0 ml cylindrical shaped vials
Others	Custom made adapter on request

Device control

Description	Required electronic for remote control is build in the device. No external controller required.
Operation control	Remote controlled as described in the Integration Manual
Peripheral interface	EIA-232 / RS-232 interface (2 m cable with RS-232 plug-in connector) optional: USB via USB-Serial Adapters (Rec. DIGITUS DA-70156) or USB via MOXA USB-to-Serial Hub
Status	LED in front (GREEN = ok RED = error)

Electrical

Operating voltage	24 V DC Imax: 4.5 A Peff: 85 Watt Pmax: 108 Watt
Power supply	Input: 100 - 240 V AC 50 - 60 Hz Output: 24 V DC Imax: 5.0 A Pmax: 120 Watt External power supply unit (CE/UL/CSA approved, 85-264 V AC, 47-63 Hz, IEC/EN60320-1 C14 Degree of protection: IP20)
Power connection*	Prewired cable length 2 m barrel connector ID 2.5 mm x OD 5.5 mm

* Only use the device with the delivered power cord. If another power cord is used ensure the wire diameter is adequate.

