

<b>Product profile</b>	
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
<b>Mixing</b>	
Mixing frequency range*	200 to 3000 rpm with 1 rpm increment resolution
Mixing orbit	constant 2.0 mm diameter
Mixing regulation accuracy	± 25 rpm
Accel. / Decel. range	1 - 30 seconds
Accel. / Decel. resolution	1 second increments
Zero position	Locked zero position with ± 0.1 mm accuracy
* Feasible frequency heavily depends on load weight and height	
<b>Temperature control</b>	
Temperature range*	RT to 99.9 °C (RT to 211.82 F) with 0.1 °C increment resolution
Temperature accuracy	± 0.1 °C
Temperature uniformity*	±0.5 °C at 45 °C   ±0.7 °C at 75 °C   ±1.0 °C at 95 °C
Heating speed above RT*	~ 7 K/min (10 min from 21 °C to 95 °C)
* Value depends on the used thermo-adapter. Given value conditions: RT = 21 °C, Adapter = 2016-1041, 96-well PCR, adapter temperature	
<b>Thermo-adapter plates for different labware</b>	
Description	An Adapter is required for optimal temperature transfer and/or shake non microplate 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
<b>Device control</b>	
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)
<b>Electrical</b>	
Operating voltages	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.	

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### Operating, transport and storage conditions

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Operating range	5 °C - 45 °C (41 - 113 F)   10 - 80 % RH   up to 2000 m above sea level   non-condensing
Floor base requirements	stable (resonance free)   horizontal   dry   inside buildings   even   well ventilated and no direct exp. to sunlight
Transportation and storage	-10 °C - 60 °C (14 - 140 F)   10 - 80 % RH   non-condensing

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### General properties

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Housing material	Aluminum anodized
Degree of protection	IP20 (Protected against solid objects up to 12 mm   No protection against water)
Pollution degree	1 (no contamination or only dry, non-conductive contamination, whereby the contamination has no influence)
Airborne sound emission	< 70 db (A)

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### Dimension and weight

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Dimensions	(W x D x H) 142 x 99 x 62.7 mm   5.59 x 3.9 x 2.47 inch
Weight	1.7 kg   3.75 lbs
Packaging size	(W x D x H) 495 x 260 x 100 mm   19.49 x 10.24 x 3.94 inch   cardboard box
Packaging weight	3 kg   6.61 lbs

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### Certifications

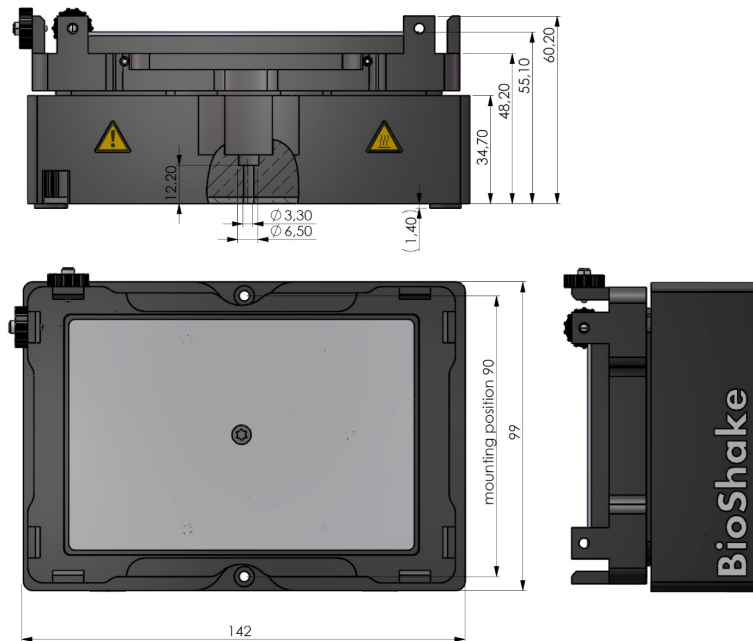
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Regulatory compliance	2014/30/EU, 2015/863/EU, 2011/65/EU, DIN EN 61010-1:2020-03, DIN EN 61010-2-010:2015-05, DIN EN 61010-2-051:2016-02, DIN EN 61326-1:2013-07, DIN EN 50581:2013-02, DIN EN 61000-3-2:2015-03, DIN EN 61000-3-3:2014-03
Patents pending	WO2008135565, US8323588, EP2144716, WO2011113858, US9126162, EP2547431, WO2013113847, US10052598, EP2809436, WO2013113849, US9371889, EP2809435, WO2014207243, US20160368003, EP3013480 Please notify us in writing, by email or mail to our designated agent, if you believe that a user has infringed our intellectual property rights

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### Drawing

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