



MIXING & TEMPERATURE
TECHNOLOGIES FOR LAB AUTOMATION

QIN'STRUMENTS 

A BICO COMPANY



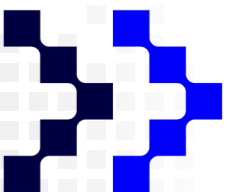
NATURE'S

PERFECT DESIGN

THE CHEETAH IS THE FASTEST ANIMAL ON EARTH
& AS SUCH SYMBOLIZES OUR WAY OF WORKING:

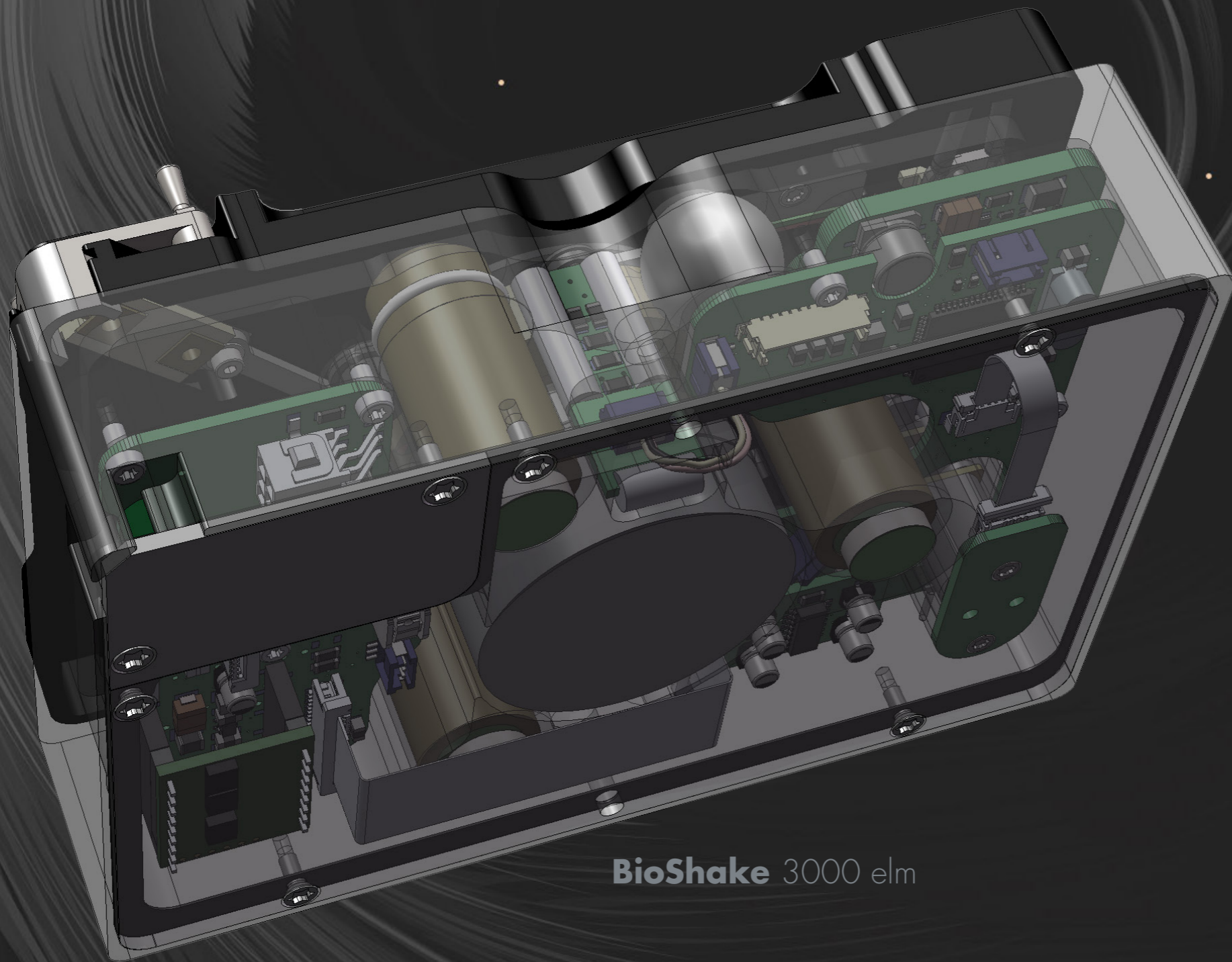
QUICK ACTIONS AND REACTIONS, EXPERIENCE ON THE
FIELD, COMPLETE AVAILABILITY FOR OUR CLIENTELE,
AVAILABILITY OF DOCUMENTATION, TABLES,
KNOW-HOW & AMPLE KNOWLEDGE WITH
THE POSSIBILITY OF CARRYING OUT
PATENTS AND STANDARDS!

QINSTRUMENTS design group



BRING PROJECT IDEAS

TO LIFE WITH OUR INNOVATION



BioShake 3000 elm

NATURE

HOLDS THE KEY TO OUR
AESTHETIC, INTELLECTUAL,
COGNITIVE AND STRONGLY FOCUSED
RESEARCH & DEVELOPMENT.



BioShake 3000-T elm

QINSTRUMENTS

A BICO COMPANY



WE ARE THE GERMAN
LIFE SCIENCE COMPANY
WITH BRILLIANT IDEAS &
PIONEERING SPIRIT.

GREAT GERMAN
ENGINEERS ARE THE
HEART AND SOUL OF
QINSTRUMENTS.

Who we are?

OVERVIEW

QINSTRUMENTS is an Engineering and Manufacturing company located in Jena, Germany. We design, build and market equipment for sample preparation products such as shakers, thermoshaker, heating & cooling units, centrifuges and more.

VISION

In 2003, we set out with a goal to reinvent lab preparation equipment for the automation age. Our vision was simple:

“Equip every lab with the best microplate shakers and make sample mixing a valued experience again”.

QINSTRUMENTS, established in Jena, develops and manufactures fully automated, as well as individual solutions for Life Science and molecular diagnostics.

Our company is pioneer in the development of perfect solutions for mixing and temperature control of molecular samples on robotic platforms. The product range includes well designed OEM components by providing new systems that streamline operations in each lab. We are well known for our robust products, strong customer service and flexibility to deliver custom solutions to specific applications.

Our strong intellectual portfolio consists of several own and foreign-issued patents, in the areas and methods for mixing, temperature control, centrifugation, hybridization, sample processing and sample handling.

Besides this, QINSTRUMENTS intends to develop further its technologies platforms to maintain a technological edge and a strong proprietary position.

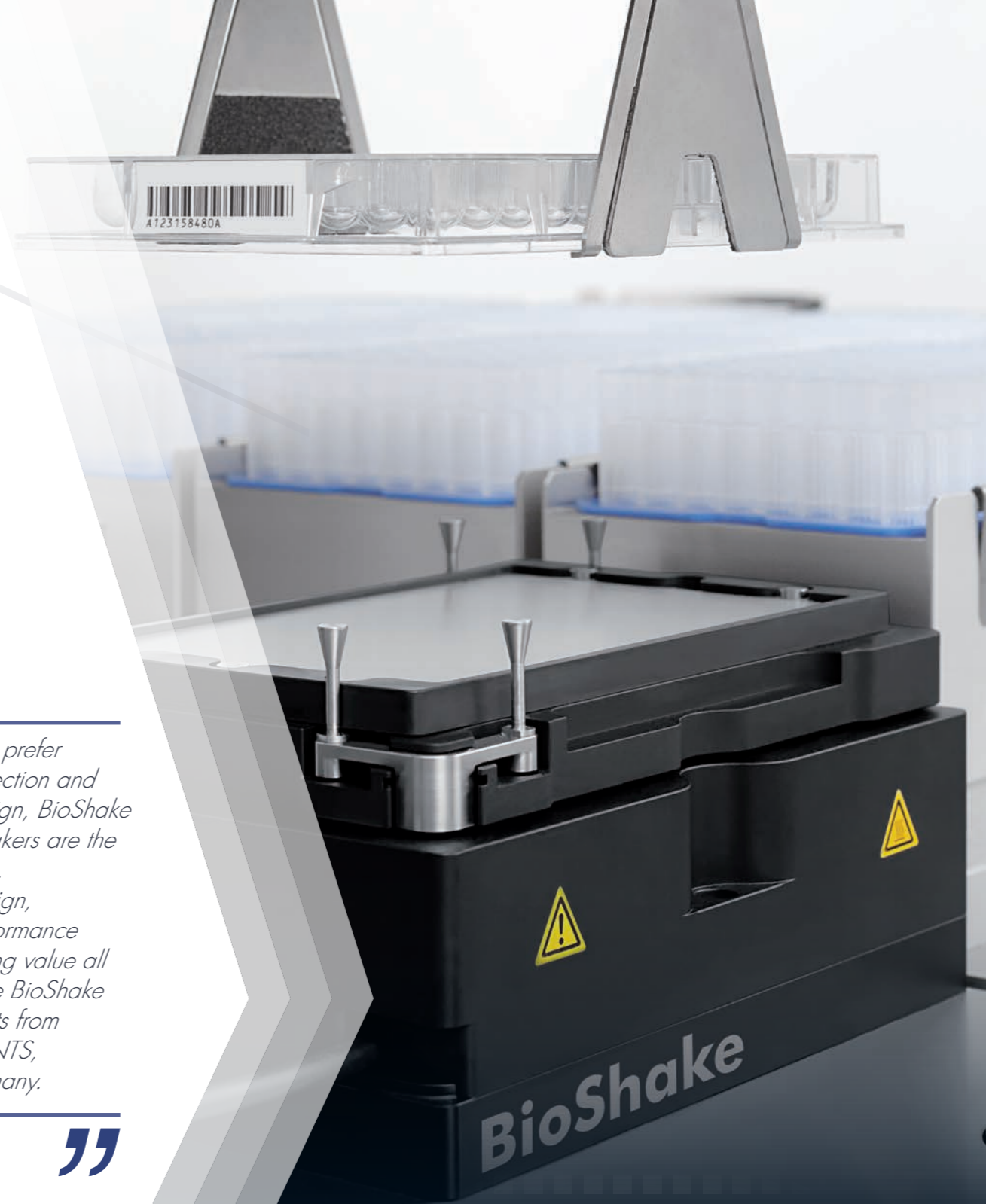
Our customers include life-science research laboratories and drug discovery laboratories in pharmaceutical and biotechnology firms.

Accepting and adapting the changing trends and needs of the customers, our prudent company currently enjoys an impressive clientele in USA, Germany, Switzerland, UK and more.



For those who prefer technical perfection and functional design, BioShake microplate shakers are the perfect choice. High tech design, precision performance and outstanding value all characterize the BioShake laboratory units from QINSTRUMENTS, made in Germany.

OLAF SIMMAT
CEO



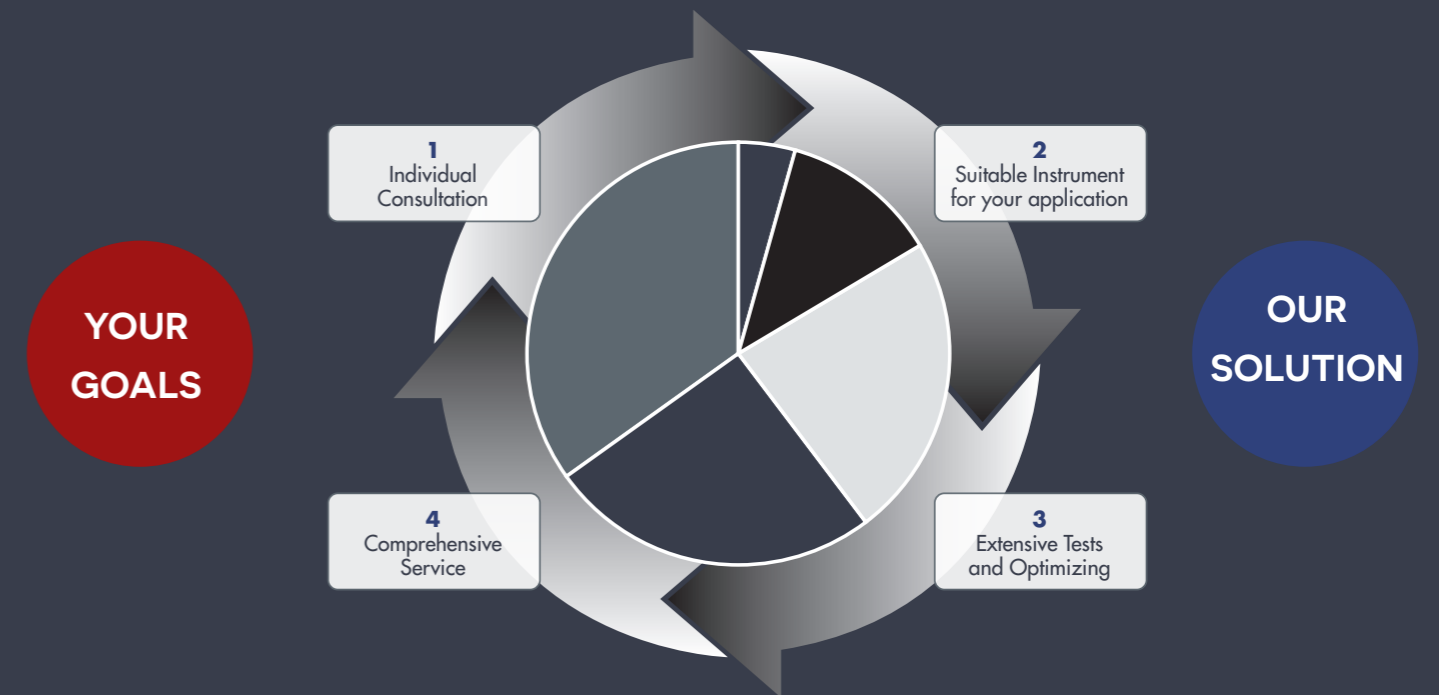
MIXING ON THE RIGHT FREQUENCY
SAVES TIME & MONEY.



TECAN FLUENT™
REFERENCE PARTNER PROJECT

OEM DEVELOPMENT

WE ARE YOUR COMPETENT PARTNER
FROM DEVELOPMENT TO SERIES PRODUCTION.



The development of new automated applications in labs and diagnostic fields are unbelievably dynamic. QInstruments aim is to develop secure solutions for automation systems that use these applications, in close cooperation with OEM customers, system integrators, and other partners.

We provide our customers and partners with individual applications or end-to-end solutions that suit their every day need.

- > Design studies
- > Development of article designs
- > Design of thermal concepts
- > Calculation and simulation
- > Creation of electronic circuits
- > Functional programming
- > Customizing and optimizing of applications
- > Prototyping
- > Series production
- > Reliability tests
- > CE and IVD approval

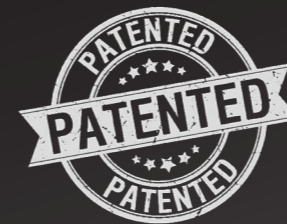
BioShake Q1

PROFESSIONAL HEATER-COOLER SHAKER

COMBINING THE COOLING & HEATER & MIXING OPERATION IN ONE UNIT

TRULY ELEGANT DESIGN INCORPORATES TOP-NOTCH FUNCTIONALITY INTO A SIMPLE, UNCLUTTERED FORM.

MADE IN GERMANY



THE DESIGN IS DONE WHEN THE PROBLEM GOES AWAY.



BioShake Q1

PROFESSIONAL HEATER-COOLER SHAKER



BioShake Q1 **Order no.** 2016-0600

HIGHLIGHTS

- **Cooling & Heating & Mixing** in one unit
- Fast mixing from **200** up to **3,000 rpm**
- Fully adjustable between **-20°** to **99.9°C**
- Temperature range **24 K below RT**, max: 99 °C
- **Cooling/Heating speed 12 K/min** above RT
- Wide range of perfected thermo adapters
- Plate locking **ELM**
- **First-class** aluminium housing
- Easy installation & simple start-up
- **2 years full warranty**



TECHNICAL SPECIFICATIONS

SAMPLE	Microplates	All 24-, 48-, 96-, 384-well plates of round-well, deep-well, v-well and square-well shape All microplates according SBS format . Supported microplate flange heights: 2.5 mm, 4.0 mm and 6.1 mm
	Standard tubes	0.2 2.0 ml standard microcentrifuge tubes
	Glass vials	0.5 6.0 ml vials with cylindrical shape
MIXING	Mixing frequency	200 up to 3,000 rpm
	Mixing orbit	Constant 2.0 mm as standard (other orbit diameter 1.2 / 3.0 mm on request)
	Speed setting resolution	1 rpm Linear increments
	Mixing regulation accuracy	± 25 rpm
	Zero Position	Locked zero position, adjustable within 1 - 4 sec, accuracy ± 0.1 mm
ELM	ELM open modus	Plate locking open, ready for free handling with robot gripper
	ELM closed modus	Plate locking closed, strong diagonal centered fixation, locked position with accuracy ± 0.1 mm
TEMPERATURE	Temperature range	-20°C to 99.9°C . up to 24 Kelvin under room temperature (depend on the used thermo adapter)
	Temperature setting	Adjustable from -20°C to 99.9°C . 0.1°C increment
	Temperature sensor accuracy	± 0.2°C (maximum) from -10°C to +85°C . ± 0.25°C (maximum) from -20°C to +100°C
	Temperature uniformity	± 1.0°C at 4°C . ± 0.5°C at 15°C . ± 0.5°C at 40°C . ± 1.0°C at 90°C
	Cooling/Heating speed above RT	ca. 16 K/min Heating -> 5.0 min from 25°C to 95°C ca. 12 K/min Cooling -> 6.5 min from 95°C to 25°C (depend on the used thermo adapter)
	Cooling/Heating speed below RT	ca. 12 K/min Heating -> 2.2 min from 4°C to 25°C ca. 3 K/min Cooling -> 7.0 min from 25°C to 4°C (depend on the used thermo adapter)
DEVICE CONTROL	Electronic control board	Completely accommodated in the smallest housing . Non external controller or components
	Controller	Micro controller (32-Bit-ARM-Cortex-M4-Prozessor)
	Operation control	Remote controlled
	User interface	RS232 interface . USB via DIGITUS DA-70156 USB-Seriell Adapters . USB via MOXA USB-to-Serial Hub
	Status & alarm	LED in corner area . GREEN = ok . RED = alarm . BLUE = booting . YELLOW = no communication
ELECTRICAL	Operating Voltages	24 VDC input . Imax: 4.5 A . Peff: 85 Watt . Pmax: 108 Watt
	External power supply	External power supply 24VDC 120W (CE/UL/CSA approved, 85-264 VAC, 47-63 Hz, IEC/EN60320-1 C14)
	24 V DC connection	Prewired cable, length 2 m, barrel connector ID 2.5 x OD 5.5 mm
	RS-232 interface	Prewired cable, length 2 m, with RS-232 plug-in connector
PROPERTIES	Environment operating range	+15°C to 32°C (10-80 % max. relative humidity, non condensing)
	Dimensions WxDxH	142 mm x 99 mm x 87.5 mm (without adapter) . 142 mm x 99 mm x 97.7 mm (top edge of ELM pins)
	Weight	1.65 kg (3.637 lbs)
	Housing Material	Aluminum anodized, black

ColdPlate

PROFESSIONAL HEATER-COOLER



COMBINING THE COOLING & HEATER OPERATION IN ONE UNIT

TRULY ELEGANT DESIGN INCORPORATES
TOP-NOTCH FUNCTIONALITY INTO A
SIMPLE, UNCLUTTERED FORM.

MADE IN GERMANY



“ THERE IS NO DESIGN WITHOUT DISCIPLINE.
THERE IS NO DISCIPLINE WITHOUT INTELLIGENCE.”



ColdPlate

PROFESSIONAL HEATER-COOLER THERMOBLOCK

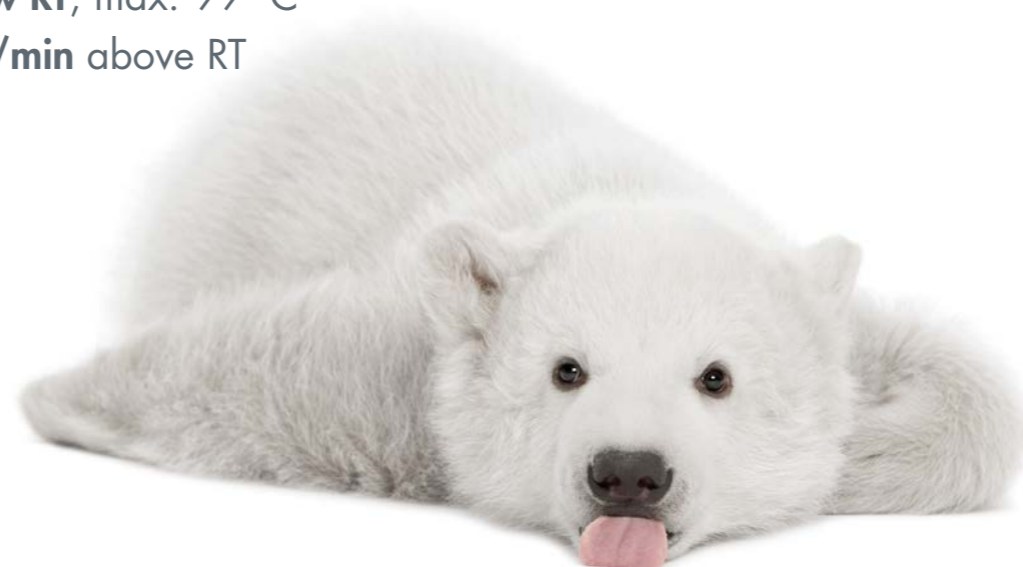
TECHNICAL SPECIFICATIONS



ColdPlate Order no. 2016-0110

HIGHLIGHTS

- Cooling & heating in one unit
- Fully adjustable between **-10°** to **99°C**
- Temperature range **25 K below RT**, max. 99 °C
- Cooling/Heating speed **12 K/min** above RT
- Perfected thermo adapters
- **First-class** aluminium housing
- All parts inside
- Simple start-up
- **2 years full warranty**



SAMPLE	Microplates	All 6-, 12-, 24-, 48-, 96-, 384-, 1536-well plates of round-well, deep-well, v-well and square-well shape All microplates according SBS format . Supported microplate flange heights: 2.5 mm, 4.0 mm and 6.1 mm
	Standard tubes	0.2 2.0 ml 0.2 standard microcentrifuge tubes
	Glass vials	0.5 6.0 ml vials with cylindrical shape
TEMPERATURE	Temperature range	-10°C to 99°C . up to 25 Kelvin under room temperature (depend on the used thermo adapter)
	Temperature setting	Adjustable from -10°C to 99.9°C . 0.1°C increment
	Temperature accuracy	±0.1°C
	Temperature uniformity	±0.7°C at 4°C . ±0.3°C at 45°C . ±0.5°C at 75°C . ±0.7°C at 95°C
	Cooling/Heating speed above RT	ca. 12 K/min above RT . 6 min from RT to 95°C . 6min from 95°C to RT depend on the used thermo adapter
	Cooling/Heating speed below RT	ca. 6-12 K/min below RT . 4-5 min from RT to 4°C . 4-5 min from 4°C to ambient depend on the used thermo adapter
DEVICE CONTROL	Electronic control board	Completely accommodated in the smallest housing . Non external controller or components
	Controller	Micro controller (32-Bit-ARM-Cortex-M3-Prozessor)
	Operation control	Remote controlled
	User interface	RS232 interface . USB via DIGITUS DA-70156 USB-Seriell Adapters . USB via MOXA USB-to-Serial Hub
	Status & alarm	LED in corner area . green = ok . red = booting/alarm . yellow = no communication
ELECTRICAL	Operating Voltages	24 VDC input . I _{max} : 4.5 A . P _{eff} : 85 Watt . P _{max} : 108 Watt
	External power supply	External power supply 24VDC 120W (CE/UL/CSA approved, 85-264 VAC, 47-63 Hz, IEC/EN60320-1 C14)
	24 V DC connection	Prewired cable, length 2 m, barrel connector ID 2.5 x OD 5.5 mm
	RS-232 interface	Prewired cable, length 2 m, with RS-232 plug-in connector
PROPERTIES	Environment operating range	+5°C to 45°C (80 % max. relative humidity)
	Dimensions WxDxH	ColdPlate: 142 mm x 99 mm x 79.0 mm (without adapter) ColdPlate slim: 142 mm x 99 mm x 45.5 mm (without adapter)
	Weight	ColdPlate: 1.4 kg ColdPlate slim: 1.6 kg
	Housing Material	Aluminum anodized, black



ColdPlate slim Order no. 2016-0111

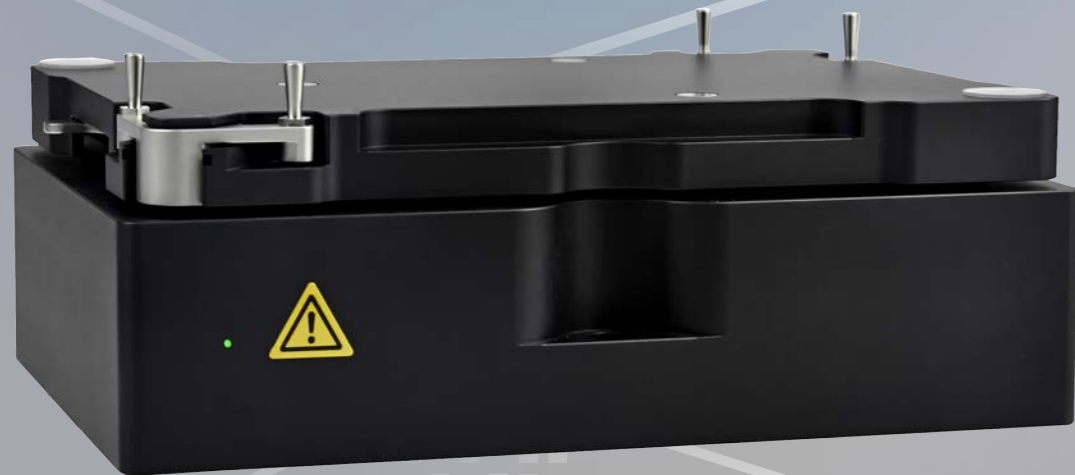
SEAMLESSLY MANAGING

YOUR **SHAKER** NEEDS AROUND THE WORLD

WE HAVE TAKEN THE BIOSHAKE AUTOMATION UNITS TO A WHOLE NEW LEVEL WITH FEATURES THAT GO FURTHER.

HIGHLY IMPROVED ACCURACY, INTERNAL ALGORITHMS & OPTIMIZED SENSORS ENABLE SMOOTH OPERATING WITH LONG LIFETIME.

AVAILABLE ALL OVER THE WORLD.

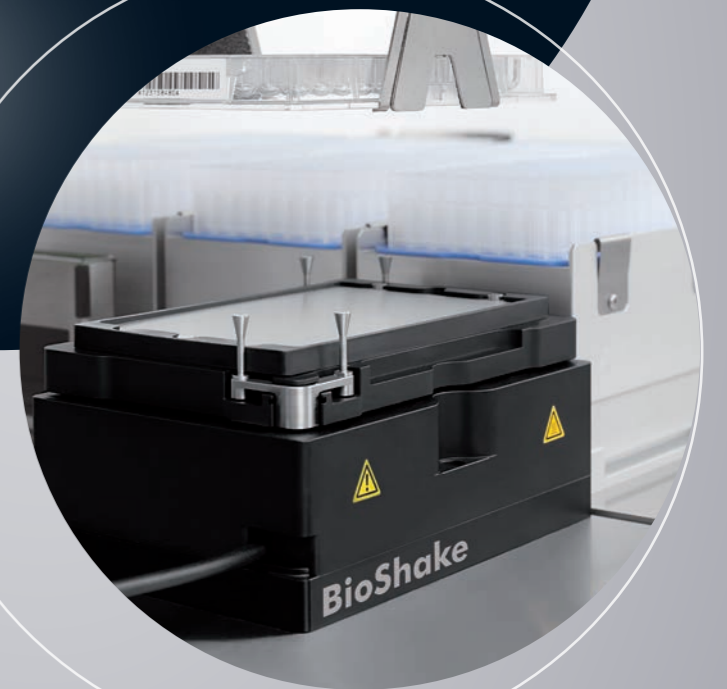


BioShake[®]

ENHANCED TECHNOLOGY

- > Planar orbital motion
- > Speed up to 5,000 rpm
- > No noise, no vibrations
- > ZERO positioning
- > Accurate temperature control
- > Heating up to 100 °C
- > Unique edge locking
- > First-class aluminium housing

No design mixes better.



EASILY INSPIRE YOURSELF THROUGH OUR BIOSHAKE

Our BioShake innovations define the shaker standard in terms of compactness, speed, quietness, and precision.

To mix the samples they love, to discover and experience new things they never knew existed, and to appreciate it all with the highest quality.

We're constantly looking for ways to improve the experience – with new products, new software and continually investing in ways to provide our customers the best experience possible.

GLOBAL ESTABLISHED PRODUCTS

QInstruments is an internationally respected manufacturer of application-oriented laboratory instruments. Our instruments have been used for 15 years worldwide for sample preparation and lab automation in industry and research laboratories.

Trust QInstruments quality made in Germany, our experience and our service.

BioShake[®] LINE FOR LAB AUTOMATION

SHAKING



BioShake 3000

ORBITAL SHAKER FOR VIALS & TUBES

The BioShake 3000 is designed for reliable mixing of vials and tubes. This shaker provides ease of use features, amazing comfort and maximum safety. Exchangeable adapter plates enable a perfect adaptation to tubes or glass vials. Fully adjustable up to 3,000 rpm, well beyond the speeds of most other brands, guarantees fast, reliable mixing for vials.

SHAKING & HEATING

BioShake 3000-T

OPTIMIZED HEATER SHAKER FOR TUBES & VIALS

The BioShake 3000-T is designed for reliable mixing of vials and tubes. This shaker heats from ambient up to 99 °C in a short time, provides ease of use features, amazing comfort and maximum safety. Exchangeable adapter plates and thermal blocks enable a perfect adaptation to tubes or glass vials. BioShake 3000-T delivers outstanding thermal heating performance.



SHAKING & ELM CLAMPING

BioShake 3000 elm

HIGH-END SHAKER FOR MICROPLATES

If you need to quickly & precisely mix samples in High Throughput runs – go no further. The BioShake 3000 elm plate mixer provides high-speed mixing action for the most demanding robotics applications. Fully adjustable up to 3,000 rpm, well beyond the speeds of most other brands, guarantees fast, splatter-free, mixing for microplates. This plate shaker provides amazing comfort and maximum safety.



SHAKING & HEATING & ELM CLAMPING

BioShake 3000-T elm

2.0 MM ORBITAL HEATER SHAKER FOR 96 WELL MICROPLATES

The BioShake 3000-T elm provides high-speed mixing action & temperature control for the most demanding robotics applications. This uniquely designed heater shaker combines heating from ambient to 99 °C, a automatic plate lock mechanism and smallest dimensions. The module is only slightly larger than a standard microplate, and with its patented vibration-free shaking, you'll be amazed that the BioShake 3000-T elm can blend samples in a wide variety of vessel types.



BioShake 3000 elm DWP

OPTIMIZED SHAKER FOR HEAVY DEEP WELL PLATES

If the filled deep well plate has a weight of more than 200 g, the using of BioShake 3000 elm DWP is recommended. The optimized mass balance elements and integrated silicone pads in opposite corners reduce noise and vibration significantly during rapid mixing of full loaded microtiter plates. Fully adjustable between 200 rpm and 3,000 rpm, well beyond the speeds of most other brands, guarantees fast, splatter-free, mixing for all microplates.

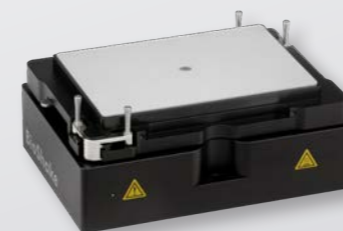


BioShake D30-T elm

3.0 MM ORBITAL HEATER SHAKER FOR 24/48/96 WELL PLATES

The BioShake D30-T elm is the ideal and the most effective ThermoShaker for larger well plates from 2, 4, 8, 48 up to 96 deep well wells. The optimized 3 mm orbital radius & mass balance elements reduce noise and vibrations significantly during heating and mixing of full loaded plates. This thermoshaker model heats from ambient up to 99 °C in a short time, provides ease of use features, amazing comfort and maximum safety.

For precise control of speed, temperature and positioning of microplates in a small package, the BioShake D30-T elm has no equal.



BioShake 5000 elm

HIGH-SPEED ORBITAL SHAKER FOR 384/1536 WELL PLATES

Capable of speeds up to 5,000 rpm, our BioShake 5000 elm shaker is designed to mix samples and critical liquid classes in 384- and 1536-well microplates. Shaking orbit diameter is fixed at 1.2 mm for rapid, ultra-quiet shaking with high mixing frequencies. The integrated Edge Locking Mechanism (elm) is the complete answer to ensure compatibility with commonly-used robots.



BioShake 3000

UNIVERSAL ORBITAL SHAKER



Order no. 2016-0016



USING FOR

96- and 384 well microplates

Deep well plates, PCR plates

Tubes, glass vials, etc.

STANDARD FEATURES

Anti-vibration technology

Anti-spill technology

2D-shake-control

Self-centering homing position

Speed/acceleration control system

RS-232

KEY BENEFITS

High-performance all-rounder

Mixing speeds up to 3,000 rpm

Orbit diameter 2.0 mm

Exchangable adapter

Simple start-up

DESCRIPTION: Universal orbital shaker for robots
For using with microplates, tube, glass vials or others
Mixing from 200 - 3,000 rpm, orbit diameter 2.0 mm, RS-232

SCOPE OF DELIVERY: 1x BioShake 3000
1x Power supply 85-264 VAC, 24 VDC, 120 W (CE/UL/CSA approved)
2x Power cords: Europe & country-specific version
1x 24 VDC cable (prewired cable, length 2 m)
1x RS-232 cable (prewired cable, length 2 m)
1x Manual
1x Calibration certificate
Documentation

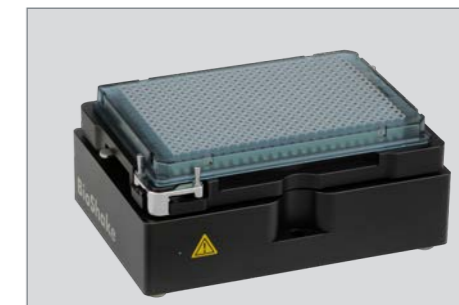
* Adapters are not part of the scope of delivery, they must be ordered seperatly

BioShake 3000 elm

ORBITAL SHAKER FOR MICROPLATES



Order no. 2016-0017



USING FOR

96- & 384 well microplates

Deep well plates, PCR plates

STANDARD FEATURES

Anti-vibration technology

Anti-spill technology

2D-shake-control

Self-centering homing position

Speed/acceleration control system

RS-232

KEY BENEFITS

High-speed microplate shaker

Mixing speeds up to 3,000 rpm

Orbit diameter 2.0 mm

Edge locking mechanism (elm)

For automatic robotic gripping

DESCRIPTION: Orbital shaker for microplates
Automatic edge locking mechanism (elm) for robotic gripping
Mixing from 200 - 3,000 rpm, orbit diameter 2.0 mm, RS-232

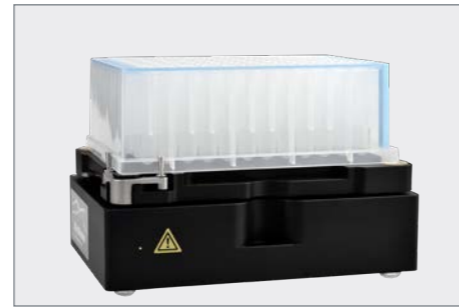
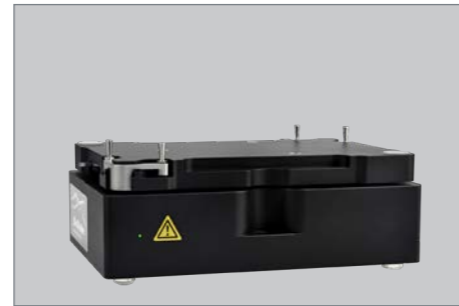
SCOPE OF DELIVERY: 1x BioShake 3000 elm
1x Power supply 85-264 VAC, 24 VDC, 120 W (CE/UL/CSA approved)
2x Power cords: Europe & country-specific version
1x 24 VDC cable (prewired cable, length 2 m)
1x RS-232 cable (prewired cable, length 2 m)
1x Manual
1x Calibration certificate
Documentation

BioShake 3000 elm DWP

IDEAL SHAKER FOR DEEP WELL PLATES



Order no. 2016-0018



USING FOR

0.5 - 2.5 ml deep well plates

96- & 384 well microplates

STANDARD FEATURES

Anti-vibration technology

Anti-spill technology

2D-shake-control

Self-centering homing position

Speed/acceleration control system

RS-232

KEY BENEFITS

High-speed deep well plate shaker

Mixing speeds up to 3,000 rpm

Orbit diameter 2.0 mm

Edge locking mechanism (elm)

For automatic robotic gripping

Integrated noise reduction

DESCRIPTION:

Ideal orbital shaker for deep well plates
Automatic edge locking mechanism (elm) for robotic gripping
Mixing from 200 - 3,000 rpm, orbit diameter 2.0 mm, RS-232

SCOPE OF DELIVERY:

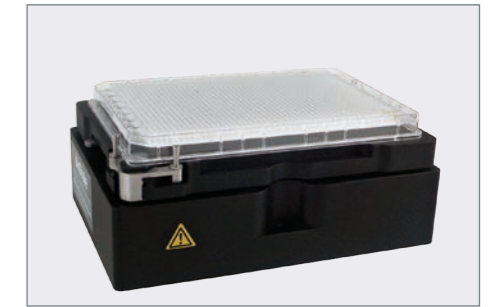
1x BioShake 3000 elm DWP
1x Power supply 85-264 VAC, 24 VDC, 120 W (CE/UL/CSA approved)
2x Power cords: Europe & country-specific version
1x 24 VDC cable (prewired cable, length 2 m)
1x RS-232 cable (prewired cable, length 2 m)
1x Manual
1x Calibration certificate
Documentation

BioShake 5000 elm

HIGH-SPEED ORBITAL SHAKER
FOR 384/1536 WELL PLATES



Order no. 2016-0022



USING FOR

384 & 1536 well microplates

STANDARD FEATURES

Anti-vibration technology

Anti-spill technology

2D-shake-control

Self-centering homing position

Speed/acceleration control system

RS-232

KEY BENEFITS

High-speed microplate shaker

Mixing speeds up to 5,000 rpm

Orbit diameter 1.2 mm

Edge locking mechanism (elm)

For automatic robotic gripping

DESCRIPTION:

High-speed orbital shaker for 384/1536 well plates
Automatic edge locking mechanism (elm) for robotic gripping
Mixing from 200 - 5,000 rpm, orbit diameter 1.2 mm, RS-232

SCOPE OF DELIVERY:

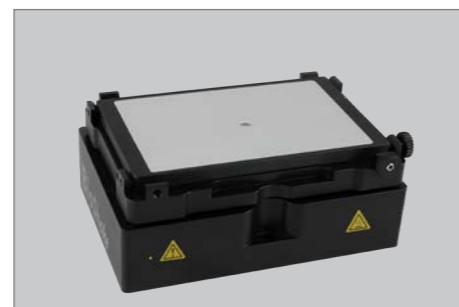
1x BioShake 5000 elm
1x Power supply 85-264 VAC, 24 VDC, 120 W (CE/UL/CSA approved)
2x Power cords: Europe & country-specific version
1x 24 VDC cable (prewired cable, length 2 m)
1x RS-232 cable (prewired cable, length 2 m)
1x Manual
1x Calibration certificate
Documentation

BioShake 3000-T

THERMOSHAKE FOR VIALS & TUBES



Order no. 2016-0516



USING FOR

96- & 384 well microplates

Deep well plates, PCR plates

Tubes, glass vials, etc.

STANDARD FEATURES

Anti-vibration technology

Anti-spill technology

2D-shake-control

Self-centering homing position

Speed/acceleration control system

RS-232

KEY BENEFITS

High-performance all-rounder

Mixing speeds up to 3,000 rpm

Orbit diameter 2.0 mm

Exchangable adapter

Simple start-up

Heating from ambient up to 99°C

High temperature uniformity

DESCRIPTION: Universal thermoshaker
For using with 96- and 384 well microplates, Deep well plates PCR plates tube, glass vials etc.
Mixing from 200 - 3,000 rpm, orbit 2.0 mm, temperature control from RT - 99°C, RS-232

SCOPE OF DELIVERY: 1x BioShake 3000-T
1x Power supply 85-264 VAC, 24 VDC, 120 W (CE/UL/CSA approved)
2x Power cords: Europe & country-specific version
1x 24 VDC cable (prewired cable, length 2 m)
1x RS-232 cable (prewired cable, length 2 m)
1x Manual
1x Calibration certificate
Documentation

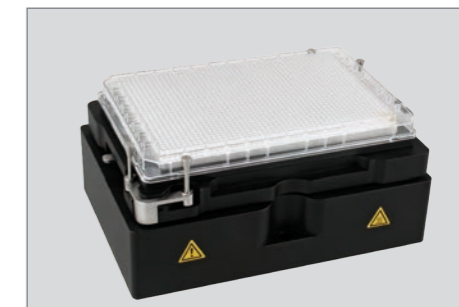
* Adapters are not part of the scope of delivery, they must be ordered separately

BioShake 3000-T elm

ALL-IN-ONE THERMOSHAKE



Order no. 2016-0517



USING FOR

96- & 384 well microplates

Deep well plates, PCR plates

STANDARD FEATURES

Anti-vibration technology

Anti-spill technology

2D-shake-control

Self-centering homing position

Speed/acceleration control system

RS-232

KEY BENEFITS

High-speed microplate shaker

Mixing speeds up to 3,000 rpm

Orbit diameter 2.0 mm

Edge locking mechanism (elm)

For automatic robotic gripping

Exchangable adapter

Heating from ambient up to 99°C

High temperature uniformity

DESCRIPTION: ALL-in-ONE thermoshaker
Automatic edge locking mechanism (elm) for robotic gripping
Mixing from 200 - 3,000 rpm, orbit 2.0 mm, temperature control from RT - 99°C, RS-232

SCOPE OF DELIVERY: 1x BioShake 3000-T elm
1x Power supply 85-264 VAC, 24 VDC, 120 W (CE/UL/CSA approved)
2x Power cords: Europe & country-specific version
1x 24 VDC cable (prewired cable, length 2 m)
1x RS-232 cable (prewired cable, length 2 m)
1x Manual
1x Calibration certificate
Documentation

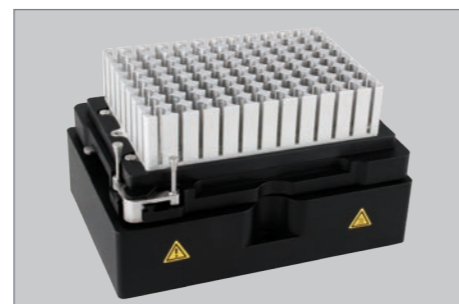
* Adapters are not part of the scope of delivery, they must be ordered separately

BioShake D30-T elm

THERMOSHAKE FOR 4-48-96 WELL PLATES



Order no. 2016-0518



USING FOR

Microplates from 4 up to 96 well

STANDARD FEATURES

Anti-vibration technology

Anti-spill technology

2D-shake-control

Self-centering homing position

Speed/acceleration control system

RS-232

KEY BENEFITS

High-performance all-rounder

Mixing speeds up to 2,000 rpm

Orbit diameter 3.0 mm

Exchangable adapter

Simple start-up

Heating from ambient up to 99°C

High temperature uniformity

DESCRIPTION:

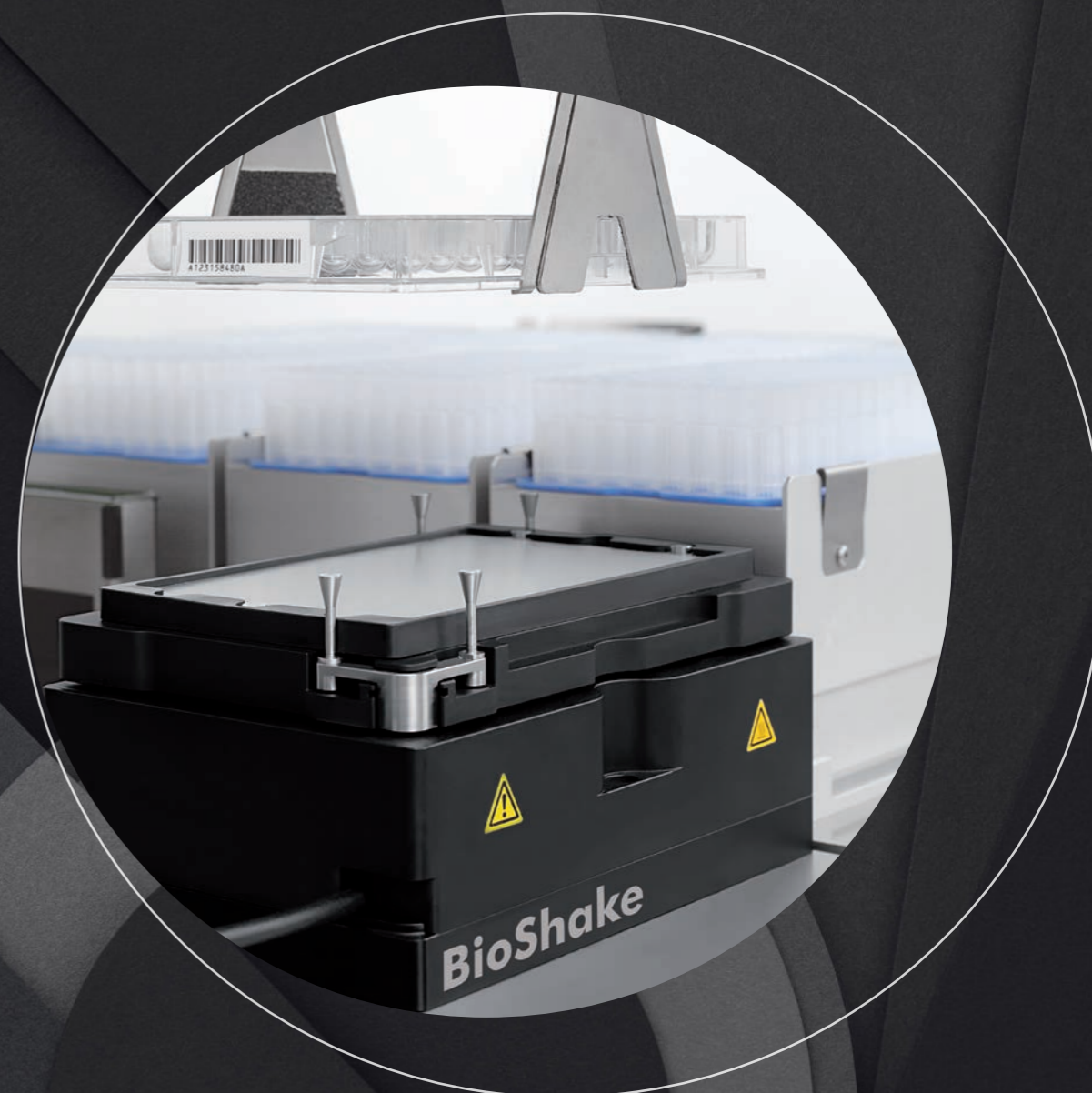
Thermoshaker for 2/4/8/24/48 / 96 well plates,
Mixing from 200 - 2,000 rpm, orbit 3.0 mm, temperature control from RT - 99°C, RS-232

SCOPE OF DELIVERY:

1x BioShake D30-T elm
1x Power supply 85-264 VAC, 24 VDC, 120 W (CE/UL/CSA approved)
2x Power cords: Europe & country-specific version
1x 24 VDC cable (prewired cable, length 2 m)
1x RS-232 cable (prewired cable, length 2 m)
1x Manual
1x Calibration certificate
Documentation

* Adapters are not part of the scope of delivery, they must be ordered separately

Reliable **mixing** technology



BioShake

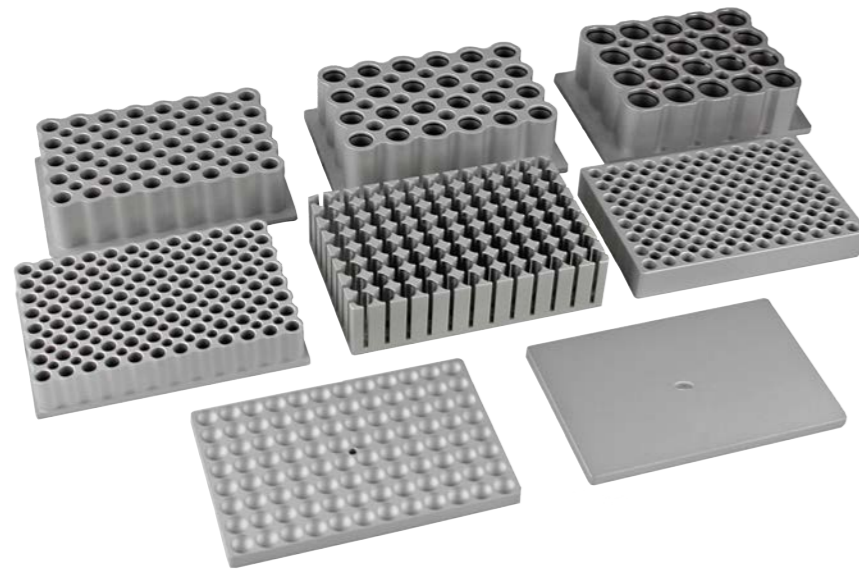
High-Speed & Intelligence

COMPARISON OF THE TECHNICAL SPECIFICATIONS

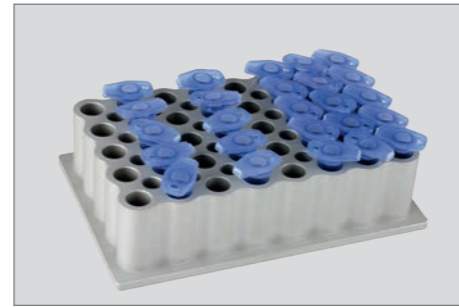
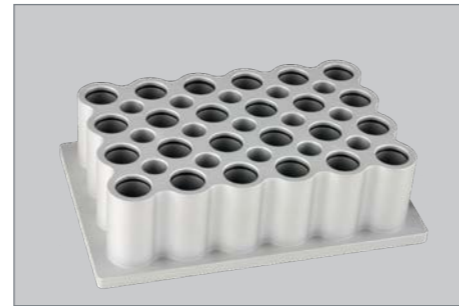
	BioShake D30	BioShake D30 elm	BioShake 3000	BioShake 3000 elm	BioShake 3000 elm DWP	BioShake 5000 elm	HeatPlate	ColdPlate	ColdPlate slim	BioShake D30-T	BioShake D30-T elm	BioShake 3000-T	BioShake 3000-T elm	BioShake Q1	BioShake Q1 3.0mm	BioShake Q1 1.2mm	BioShake Q2 3.0mm
Part no.	2016-0015	2016-0025	2016-0016	2016-0017	2016-0018	2016-0022	2016-0100	2016-0110	2016-0111	2016-0519	2016-0518	2016-0516	2016-0517	2016-0600	2016-0601	2016-0602	2016-0620
Adapter necessary	optional	-	optional	-	-	-	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Vials / Tubes	yes	-	yes	-	-	-	yes	yes	yes	yes	-	yes	-	yes	yes	-	yes
24/48/96 well Microplates	yes	yes	yes	yes	yes	-	yes	yes	yes	-	yes	yes	yes	yes	yes	-	-
Deep well plates / Reservoirs	-	yes	-	-	yes	-	yes	yes	yes	-	yes	yes	yes	yes	yes	-	-
384/1536 well plates	-	-	-	-	-	yes	yes	yes	yes	-	-	-	-	-	-	yes	-
Max. Mixing frequency [rpm]	2000 rpm	2000 rpm	3000 rpm	3000 rpm	3000 rpm	5000 rpm	-	-	-	2000 rpm	2000 rpm	3000 rpm	3000 rpm	3000 rpm	2000 rpm	5000 rpm	2000 rpm
Mixing orbit [mm]	3.0 mm	3.0 mm	2.0 mm	2.0 mm	2.0 mm	1.2 mm	-	-	-	3.0 mm	3.0 mm	2.0 mm	2.0 mm	2.0 mm	3.0 mm	1.2 mm	3.0 mm
Speed setting resolution	1 rpm						-	-	-	1 rpm				1 rpm			
Mixing regulation accuracy	± 25 rpm						-	-	-	± 25 rpm				± 25 rpm			
Zero Position	± 0.1 mm						-	-	-	± 0.1 mm				± 0.1 mm			
ELM mechanism	-	yes	-	yes	yes	yes	-	-	-	-	yes	-	yes	yes	yes	yes	-
ELM accuracy	-	± 0.1 mm	-	± 0.1 mm	± 0.1 mm	± 0.1 mm	-	-	-	-	± 0.1 mm	-	± 0.1 mm	± 0.1 mm	± 0.1 mm	± 0.1 mm	-
Heating option	-	-	-	-	-	-	heating	heating	heating	heating			heating				
Cooling option	-	-	-	-	-	-	-	cooling	-	-			cooling				
Temperature setting	-	-	-	-	-	-	RT - 99 °C	-20 °C to 99 °C	RT to 99 °C			-20 °C to 99.9 °C / 0.1 °C increment					
Temperature speed above RT	-	-	-	-	-	-	7 K/min	12 K/min	7 K/min			16 K/min heating / 12 K/min cooling					
Temperature speed below RT	-	-	-	-	-	-	-	3-6 K/min	-			12 K/min heating / 3 K/min cooling					
Electronic control board	Completely accommodated in the smallest housing / Non external controller or components																
Controller	Micro controller (32-Bit-ARM-Cortex-M4-Prozessor)																
Operation control	Remote controlled																
User interface	RS232 interface / USB via DIGITUS DA-70156 USB-Seriell Adapters / USB via MOXA USB-to-Serial Hub																
Status & alarm	LED in corner area / GREEN = ok / RED = alarm / BLUE = booting / YELLOW = no communication																
Operating Voltages	24 VDC input . Imax: 4.5 A . Peff(max): 85 Watt . Pmax: 108 Watt																
External power supply	External power supply 24 VDC 120W (CE/UL/CSA approved, 85-264 VAC, 47-63 Hz, IEC/EN60320-1 C14)																
24 V DC connection	Prewired cable, length 2 m, barrel connector ID 2.5 x OD 5.5 mm																
RS-232 interface	Prewired cable, length 2 m, with RS-232 plug-in connector																
Environment operating range	+15 °C to 32 °C (10-80 % max. relative humidity, non condensing)																
Dimensions WxD [mm]	142x99	142x99	142x99	142x99	142x99	142x99	142x99	142x99	235x99	142x99	142x99	142x99	142x99	142x99	142x99	142x99	142x99
Dimensions Height [mm]	60,75	55.35	60,75	55.35	55.35	55.35	62.7	79	45.5	62.7	60.45	62.7	60.45	97,7	97.7	97.7	97.7
Weight [kg]	1.5	1.6	1.5	1.6	1.6	1.6	1.3	1.4	1.4	1.75	1.75	1.75	1.75	1.65	1.65	1.65	1.65

ACCESSORIES

HIGH PRECISION ADAPTER PLATES



Order no. 2016-xxxx



USING FOR

All micro well plates

Deep well plates, PCR plates

Tubes, glass vials, etc.

STANDARD FEATURES

High precision machined

Perfect fit for disposables

Excellent heat transfer

Simple exchange

Anodized surface

Customized solutions

ORDER NO.	ADAPTER PLATES	ORDER NO.	ADAPTER PLATES
	Thermo adapter for microplates & PCR plates		
2016-1021	Adapter for microplate . Flat bottom standard	2016-1201	Adapter for Storage Plate . Corning® 96/320 µl
2016-1022	Adapter for microplate . Flat bottom High Base	2016-1211	Adapter for Masterblock . Greiner® 96/1.0 ml
2016-1024	Adapter for microplate . Flat bottom Low Base		Thermo adapter for centrifuge tubes - conical shape
2016-1032	Adapter for microplate . 96 well round bottom, type 2	2016-1061	Adapter for tubes . 24x 2.0 ml or 15x 0.5 ml
2016-1041	Adapter for PCR Plate . 96 well . Eppendorf twin.tec®	2016-1062	Adapter for tubes . 24x 1.5 ml or 15x 0.5 ml
2016-1051	Adapter for PCR Plate . 384 well . Eppendorf twin.tec®	2016-1063	Adapter for tubes . 40x 0.5 ml or 28x 0.2 ml
	Thermo adapter for deep well & storage plates	2016-1064	Adapter for tubes . 96x 0.2 ml
2016-1121	Adapter for Deep Well Plate . Eppendorf® 96/1000 µl		Thermo adapter for FALCON® tubes
2016-1131	Adapter for Deep Well Plate . Eppendorf® 96/500 µl	2016-1093	Adapter for 4x 50 ml FALCON® tubes
2016-1141	Adapter for Deep Well Plate . BRAND® 96/1100 µl	2016-1094	Adapter for 15x 15 ml FALCON® tubes
2016-1151	Adapter for Deep Well Plate . NUNC® 96/2000 µl		Thermo adapter for tubes/vials with cylindrical shape
2016-1161	Adapter for Deep Well Plate . Axygen® 96/0.6 ml	2016-1067	Adapter for lysis tubes . 35x 0.5-2.0 ml Ø 10.2 mm
2016-1162	Adapter for Deep Well Plate . Axygen® 96/2.0 ml	2016-1069	Adapter for glass vials . 35x 2.0 ml Ø 10.8 mm
2016-1171	Adapter for Storage Plate . Abgene® 96/2.2 ml	2016-1071	Adapter for glass vials . 35x 2.0 ml Ø 12 mm
2016-1172	Adapter for Deep Well Plate . Abgene® 96/0.8 ml	2016-1072	Adapter for glass vials . 20x 4.0 ml Ø 15 mm
2016-1181	Adapter for Mega Block . Sarstedt® 96/2.2 ml	2016-1073	Adapter for glass vials . 20x 4.0 ml Ø 17 mm
2016-1191	Adapter for Storage Plate . HJ-Bioanalytik® 96/1.2 ml	2016-1074	Adapter for glass vials . 20x 6.0 ml Ø 19 mm
			Customized thermo adapter
		2016-xxxx	Customized adapters are available on request

A VARIETY OF STANDARDIZED THERMO ADAPTERS

For all BioShake units Q.Instruments offers high precision adapter plates to allow a perfect fit for all kinds of standard tubes, vials, microplates and other different disposables. The adapter plates are optimized for an excellent heat transfer to the disposables and enhance the uniformity over all wells and the heat up or cool down time.

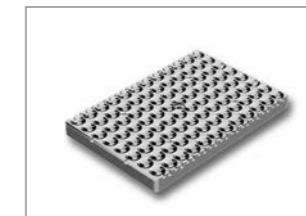
The exchange of adapter plates can be performed very easily within one minute.



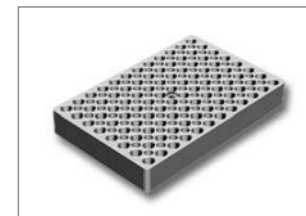
Order no. 2016-1021



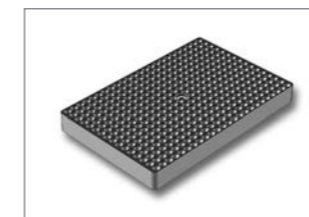
Order no. 2016-1031



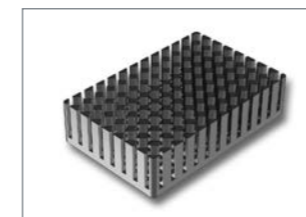
Order no. 2016-1032



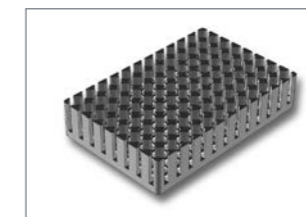
Order no. 2016-1041



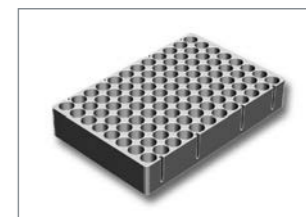
Order no. 2016-1051



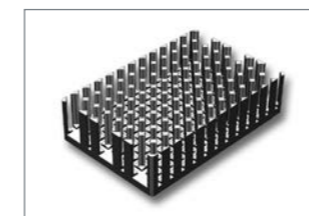
Order no. 2016-1121



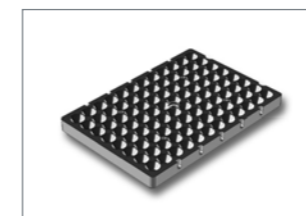
Order no. 2016-1131



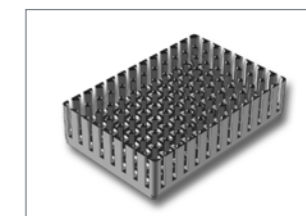
Order no. 2016-1141



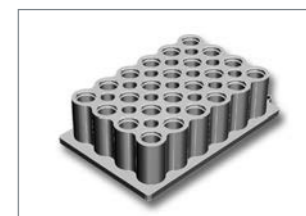
Order no. 2016-1151



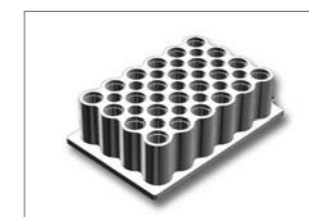
Order no. 2016-1171



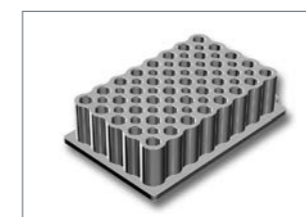
Order no. 2016-1172



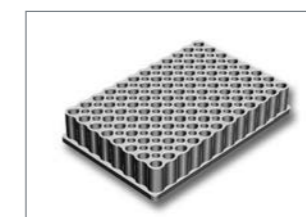
Order no. 2016-1061



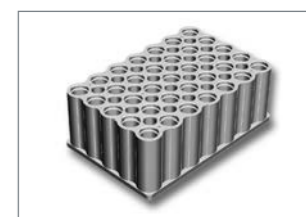
Order no. 2016-1062



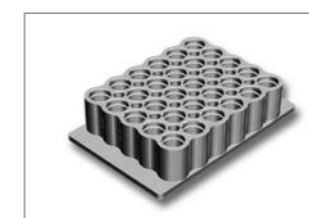
Order no. 2016-1063



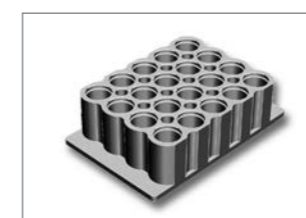
Order no. 2016-1064



Order no. 2016-1067



Order no. 2016-1071



Order no. 2016-1072



Order no. 2016-1073



Order no. 2016-1074



Customized solutions

Enjoy a convenient development. Ask us about tailor-made solutions for your requirements.



PROGRAMMING

FULL CONTROL OF BIOSHAKE VIA REMOTE COMMAND SET

Operating of BioShake is incredibly easy. it can be operated via RS-232 user interface with baud rate of 9600 baud. A simply self-setting zero position of the shaker plate after it turns off ensures the maximum of operating security specially in unmonitored continuous operation conditions and makes the time-consuming electrical tracking of the plate unnecessary. A simple command set allows you an easily control of all BioShae features and parameters :

- Initialization
- Starting and stopping
- Acceleration and velocity
- Homing position
- ELM clamp mechanism
- Temperature

in addition all process parameters are controlled and read out, such as the precise home position of the shaker every time it stops, text status outputs and diagnostics.

CONTROLLING SEVERAL SHAKERS

SIMULTANEOUS CONTROL BY USING A MOXA® CONVERTER BOX

MOXA USB-TO-SERIAL HUB

MOXA Box is a pre-wired box to allow 4, 8 or 16 devices/modules to be connected to a single PC USB communication port. Up to 16 BioShake units can be connected together in this configuration, and the mode will also work with only one shaker.



INSTANT PLUG & PLAY

The MOXA USB-to-serial converters allow you to connect RS-232 devices to your laptop or workstation through the USB (Universal Serial Bus) port. The MOXA converters are compatible with new and legacy serial devices, and are perfect for mobile, instrumentation, and point-of-sale applications.

SIMPLIFIED, HASSLE-FREE SERIAL PORT EXPANSION

USB plug & play makes serial port expansion easy, and does not require IRQ, DMA, or I/O address resources. Users no longer need to open the chassis or power down the system to add COM ports, saving on setup time and cost.

TOP SERIAL PERFORMANCE

Moxa's 25-plus years of experience in serial board design is now built into a new CPU. This chip equips the UPort™ converters with USB 2.0 (Hi-Speed 480 Mbps), a 128-byte FIFO, on-chip hardware and software flow control, and burst data mode.

USB/RS-232 ADAPTER

CONNECTS BIOSHAKE SERIAL DEVICES VIA USB-PORT

To connect BioShake serial devices to an USB port the using of DIGITUS DA-70156 USB to Serial adapter is recommended. The compatibility has been tested and approved, and is guaranteed.



TEST SOFTWARE

SIMULTANEOUS CONTROL OF ONE OR SEVERAL SHAKERS

Q.COM and **BioShake Control** are small Windows-based programs developed to run and exercise all features of the automation units in a very short time. Both are downloadable, free of charge and run in all standard PC/Laptop operating systems.

SiLA COMPLIANT DRIVER

CONNECTS BIOSHAKE SERIAL DEVICES TO SiLA PLATFORMS



SiLA is the global initiative to standardize software interfaces in the field of life science research instrumentation. Instigated by the pharmaceutical industry's need for flexible laboratory automation, the initiative is supported by major device and software suppliers world wide.

The SiLA consortium for Standardization in Lab Automation develops and introduces new interface and data management standards allowing rapid integration of lab automation systems. SiLA is a not-for-profit membership corporation with a global footprint and is open to institutions, corporations and individuals active in the life science lab automation industry. Leading system manufacturers, software suppliers, system integrators and Pharma/Biotech corporations have joined the SiLA consortium and contribute in different technical work groups with their highly skilled experts.

QInstruments provides approved SiLA drivers for all BioShake units. Please contact us for more information and download link.

VERIFICATION TOOLS

MEASUREMENT SYSTEMS TO VERIFY AND CALIBRATE BIOSHAKE MODULES

Verification, in engineering or quality management systems, is an internal process and an act of reviewing, inspecting or testing, in order to establish and document that a product, service or system meets regulatory or technical standards. The QInstruments verification tools are measurement systems to verify the accuracy of temperature and mixing speed and calibration of BioShake laboratory equipment and modules.

MADE IN GERMANY

All QInstruments devices of the BioShake series are manufactured exclusively in Germany and labelled with „CE“ and „Made in Germany“. It guarantees a very high product quality and is internationally protected.



THE QUALITY LABEL MADE IN GERMANY MEANS TO YOU:

- Years of trouble free operation.
- The sealed housing to protect mechanical and electronic components increases the lifespan of 10 years on average of well maintained equipment.
- All units are designed for continuous 24 hour unattended operation when utilizing sound scientific methods.
- To prevent laboratory fires, all units feature an over temperature circuit which switches off if an over temperature situation occurs. Thermal damage to any unit is minimized or prevented, as all models come with a fire resistant aluminum housing.

2 YEARS GLOBAL WARRANTY

QInstruments warranted the models of the BioShake series an extended warranty of 2 years – as an expression of their superior quality in terms of functionality, performance, workmanship, durability and safety.



TÜV-CERTIFICATION & CE DECLARATION

Safety of the user and ease of use are clearly a priority for us. Independent investigations from TÜV services and CE certifications guarantee the highest security standards.

Each manufacturer of laboratory instruments and medical devices bear a heavy responsibility for its products. These have to comply with legal requirements and EU regulations. The products under the label Q. Instruments and BioShake be developed and produced according to applicable European directives and requirements in conformity with legal provisions, such as the WEEE/RoHS directive and product safety law (GPSG). All BioShake units are signed with CE label (Conformité Européenne), the statutory marks in Europe for product safety.

QINSTRUMENTS DEVICES MEET THE BASIC HEALTH AND SAFETY REQUIREMENTS AND APPLICABLE STANDARDS OF:

- 2014/30/EU – The Electromagnetic Compatibility Directive
- 2011/65/EU – Restriction of Hazardous Substances Directive
- 2015/863/EU amending Annex II to Directive 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 IEC 63000:2019-05



SERVICE & SUPPORT

The Technical Service Staff of QInstruments provides superior sales services, technical support services and customer assistance for all aspects of lab equipment and lab automation. This assistance includes, but is not limited to, free technical support via e-mail, telephone, or personal visits.

QInstruments offers a yearly product maintenance and/or calibration service which includes a calibration certificate, traceable to national standards. Product calibrations are carried out in a controlled environment in accordance with our Quality Management System.

QUALITY MANAGEMENT

By quality we mean the expert performance, free of faults, of our products and services, with due regard for all the requirements and conditions that you may have as a customer and in a manner which is pleasant to you. Our aim is to realise this to the greatest extent possible. For this reason, a comprehensive and uniform quality management system has been established in QInstruments, which represents the basis for EN ISO 9001 ff compliant development and production, for numerous accreditations, certifications and licences.

Moreover, it is a matter of great importance that technical and personal development is ongoing, so as to enable our company to achieve its quality targets. Our personnel develop their competence by concentrating on recognising customer requirements correctly and completely and performing the services required in accordance with the customer's wishes.

Our daily contact with environmental matters has made us sensitive to the need of protecting our resources. For this reason, our quality management system has in some locations been augmented by the addition of an environmental management system. The compliance with the EG-Directive 2002/95/EC - RoHS („Restriction of the use of certain Hazardous Substances“) - is our top priority.

QUALITY CONTROL

The quality management process of QInstruments guarantees a constant quality of manufactured products. In order to realize this policy we have introduced a quality management system, that controls and evaluates all products and processes in the company and takes care of all necessary corrections and adjustments.

THE VERIFICATION OF THESE FACTS IS ASSURED THROUGH THE OPERATION OF A CONTROL & INSPECTION SYSTEM

- ID-Tracking of all parts and assemblies through bar code labels
- Batch tracking of all parts and assemblies
- Serial number tracking of all products
- Inspection of incoming goods
- Inspection during production/assembly process
- Calibrations and adjustments (automated and semi-automated)
- Life time tests
- Development of test and verification tools for temperature and mixing parameters
- QC analysis and documentation (QC database, final test reports, certificates, etc.)
- QC Audits through Key Account Customers
- Continuous improvement processes
- Safety tests and CE approvals

ORDERING INFORMATION

ORDER NO.	INSTRUMENTS	
2016-0100	HeatPlate	Professional heater thermoblock (RT to 99°C)
2016-0110	ColdPlate	Professional heater-cooler thermoblock (-10 to 99°C, 25 K below RT)
2016-0111	ColdPlate slim	Professional heater-cooler thermoblock, low construction (-10 to 99°C, 25 K below RT)

SHAKER		
2016-0015	BioShake D30	3.0 mm orbital shaker (200 - 2,000 rpm, orbit 3.0 mm)
2016-0025	BioShake D30 elm	3.0 mm orbital shaker with ELM (200 - 2,000 rpm, orbit 3.0 mm)
2016-0016	BioShake 3000	Universal orbital shaker (200 - 3,000 rpm, orbit 2.0 mm)
2016-0017	BioShake 3000 elm	High-End microplate shaker with ELM (200 - 3,000 rpm, orbit 2.0 mm)
2016-0018	BioShake 3000 elm DWP	Ideal shaker for heavy deep well plates with ELM (200 - 3,000 rpm, orbit 2.0 mm)
2016-0022	BioShake 5000 elm	384/1536 well plate shaker with ELM (200 - 5,000 rpm, orbit 1.2 mm)

THERMOSHAKE		
2016-0519	BioShake D30-T	3.0 mm orbital thermoshaker (RT to 99 °C, 200 - 2,000 rpm, orbit 3.0 mm)
2016-0518	BioShake D30-T elm	3.0 mm orbital thermoshaker with ELM (RT to 99 °C, 200 - 2,000 rpm, orbit 3.0 mm)
2016-0516	BioShake 3000-T	Universal Thermoshaker (RT to 99°C, 200 - 3,000 rpm, orbit 2.0 mm)
2016-0517	BioShake 3000-T elm	High-End Microplate Thermoshaker with ELM (RT to 99 °C, 200 - 3,000 rpm, orbit 2.0 mm)

2016-0600	BioShake Q1	Professional heater-cooler shaker (-20 to 99.9°C, 24 K below RT, 200 - 3,000 rpm, orbit 2.0 mm)
2016-0601	BioShake Q1 3.0mm	Professional heater-cooler shaker (-20 to 99.9°C, 24 K below RT, 200 - 2,000 rpm, orbit 3.0 mm)
2016-0602	BioShake Q1 1.2mm	384/1536 heater-cooler shaker (-20 to 99.9°C, 24 K below RT, 200 - 5,000 rpm, orbit 1.2 mm)
2016-0620	BioShake Q2 3.0mm	Vials/Tubes heater-cooler shaker (-20 to 99.9°C, 24 K below RT, 200 - 2,000 rpm, orbit 3.0 mm)

ORDER NO. ADAPTER RESERVOIRS IN MP FORMAT (AGILENT, CORNING, AZENTA, BRAND, RORVAIR, LVA)

THERMO ADAPTER FOR RESERVOIRS SW & HDW	
2016-1320	Adapter for reservoir SW flat bottom base
2016-1321	Adapter for reservoir SW 96 pyramids base
2016-1322	Adapter for reservoir SW 8-row base
2016-1323	Adapter for reservoir SW 12-column base
2016-1324	Adapter for reservoir HDW flat bottom base

THERMO ADAPTER FOR RESERVOIRS DW	
2016-1325	Adapter for reservoir DW flat bottom base
2016-1326	Adapter for reservoir DW 96 pyramids base
2016-1327	Adapter for reservoir DW 24-pyramids base
2016-1328	Adapter for reservoir DW 4-row base
2016-1329	Adapter for reservoir DW 8-row base
2016-1330	Adapter for reservoir DW 2-column base
2016-1331	Adapter for reservoir DW 3-column base
2016-1332	Adapter for reservoir DW 4-column base
2016-1333	Adapter for reservoir DW 12-column base

ORDER NO. ADAPTER RESERVOIRS BECKMAN COULTER

2016-1311	Adapter for reservoir - 2x Biomek 75ml reservoir (e.g. for half reservoir 372786, 534681)
2016-1312	Adapter for reservoir - 4x Biomek 40ml reservoir (e.g. for quarter reservoirs 372790, 534680, divided by with 372792)

ORDER NO. ADAPTER RESERVOIRS TECAN

2016-1315	Adapter for reservoir - Adapter - 5x Tecan 25ml Reservoir (e.g. Tecan 30055743)
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ORDER NO. ADAPTER PLATES

THERMO ADAPTER FOR MICROPLATES & PCR PLATES	
2016-1021	Adapter for microplate . Flat bottom standard
2016-1022	Adapter for microplate . Flat bottom High Base
2016-1024	Adapter for microplate . Flat bottom Low Base
2016-1032	Adapter for microplate . 96 well round bottom, type 2
2016-1041	Adapter for PCR Plate . 96 well . Eppendorf twin.tec®
2016-1051	Adapter for PCR Plate . 384 well . Eppendorf twin.tec®

THERMO ADAPTER FOR DEEP WELL & STORAGE PLATES	
2016-1121	Adapter for Deep Well Plate . Eppendorf® 96/500-1000 µl
2016-1141	Adapter for Deep Well Plate . BRAND® 96/1100 µl U-bottom
2016-1151	Adapter for Deep Well Plate . NUNC® & Axygen® 96/2000 µl
2016-1161	Adapter for Deep Well Plate . Axygen® 96/0.6 ml V-bottom
2016-1171	Adapter for Storage Plate . Abgene® 96/2.2 ml MARK II square well
2016-1172	Adapter for Storage Plate . Abgene® & HJ-Bioanalytik® 96/0.8-1.2 ml round well
2016-1181	Adapter for Mega Block . Sarstedt® 96/2.2 ml
2016-1201	Adapter for Storage Plate . Corning® 96/320 µl V-bottom
2016-1211	Adapter for Masterblock . Greiner® 96/1.0 ml U-bottom

THERMO ADAPTER FOR CENTRIFUGE TUBES WITH CONICAL SHAPE	
2016-1061	Adapter for tubes . 24x 2.0 ml or 15x 0.5 ml
2016-1062	Adapter for tubes . 24x 1.5 ml or 15x 0.5 ml
2016-1063	Adapter for tubes . 40x 0.5 ml or 28x 0.2 ml
2016-1064	Adapter for tubes . 96x 0.2 ml

THERMO ADAPTER FOR FALCON® TUBES	
2016-1093	Adapter for 4x 50 ml FALCON® tubes
2016-1094	Adapter for 12x 15 ml FALCON® tubes

THERMO ADAPTER FOR TUBES/VIALS WITH CYLINDRICAL SHAPE	
2016-1067	Adapter for lysis tubes . 35x 0.5-2.0 ml Ø 10.2 mm
2016-1069	Adapter for glass vials . 35x 2.0 ml Ø 10.8 mm
2016-1071	Adapter for glass vials . 35x 2.0 ml Ø 12 mm
2016-1072	Adapter for glass vials . 20x 4.0 ml Ø 15 mm
2016-1073	Adapter for glass vials . 20x 4.0 ml Ø 17 mm
2016-1074	Adapter for glass vials . 20x 6.0 ml Ø 19 mm

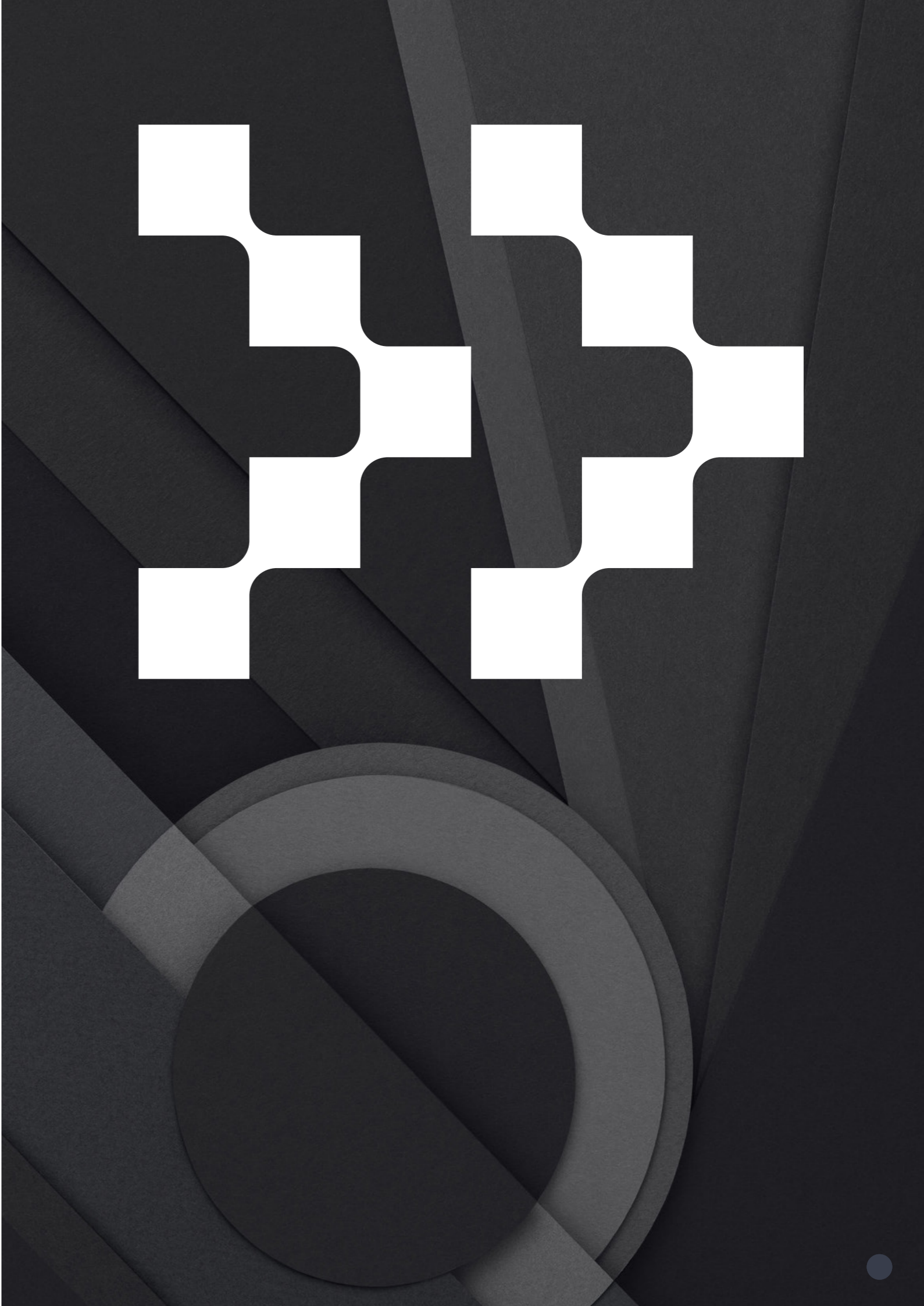
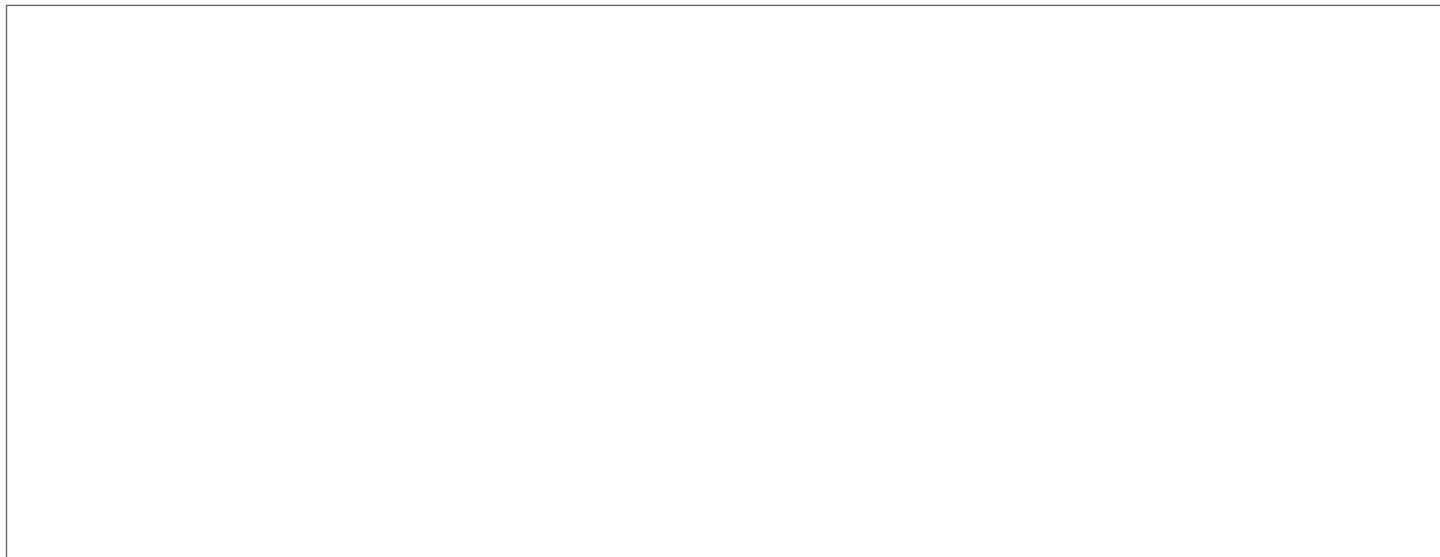
CUSTOMIZED THERMO ADAPTER	
2016-1000	Customized adapters are available on request

ORDER NO. ACCESSORIES

2016-9120	USB/RS232 Converter – Digitus DA-70156 USB serial adapter USB 2.0
2016-0071	Moxa 4-port - Connects 1-4 BioShake serial devices via USB-Port to a PC
2016-0072	Moxa 8-port - Connects 1-8 BioShake serial devices via USB-Port to a PC
2016-0073	Moxa 16-port - Connects 1-16 BioShake serial devices via USB-Port to a PC

ORDER NO. SPARE PARTS

2016-9011	External power supply 24VDC 120W (CE/UL/CSA approved, 85-264 VAC, 47-63 Hz, IEC/EN60320-1 C14)
2016-9101	Power cord Europe (IEC/EN 60320-1 C13)
2016-9102	Power cord Switzerland (IEC/EN 60320-1 C13)
2016-9103	Power cord United Kingdom (IEC/EN 60320-1 C13)
2016-9104	Power cord Italy (IEC/EN 60320-1 C13)
2016-9110	Power cord USA (IEC/EN 60320-1 C13)
2016-9111	Power cord Japan (IEC/EN 60320-1 C13)
2016-9112	Power cord China/Australia (IEC/EN 60320-1 C13)
2016-9113	Power cord South Korea (IEC/EN 60320-1 C13)
2016-9115	Power cord South Africa (IEC/EN 60320-1 C13)

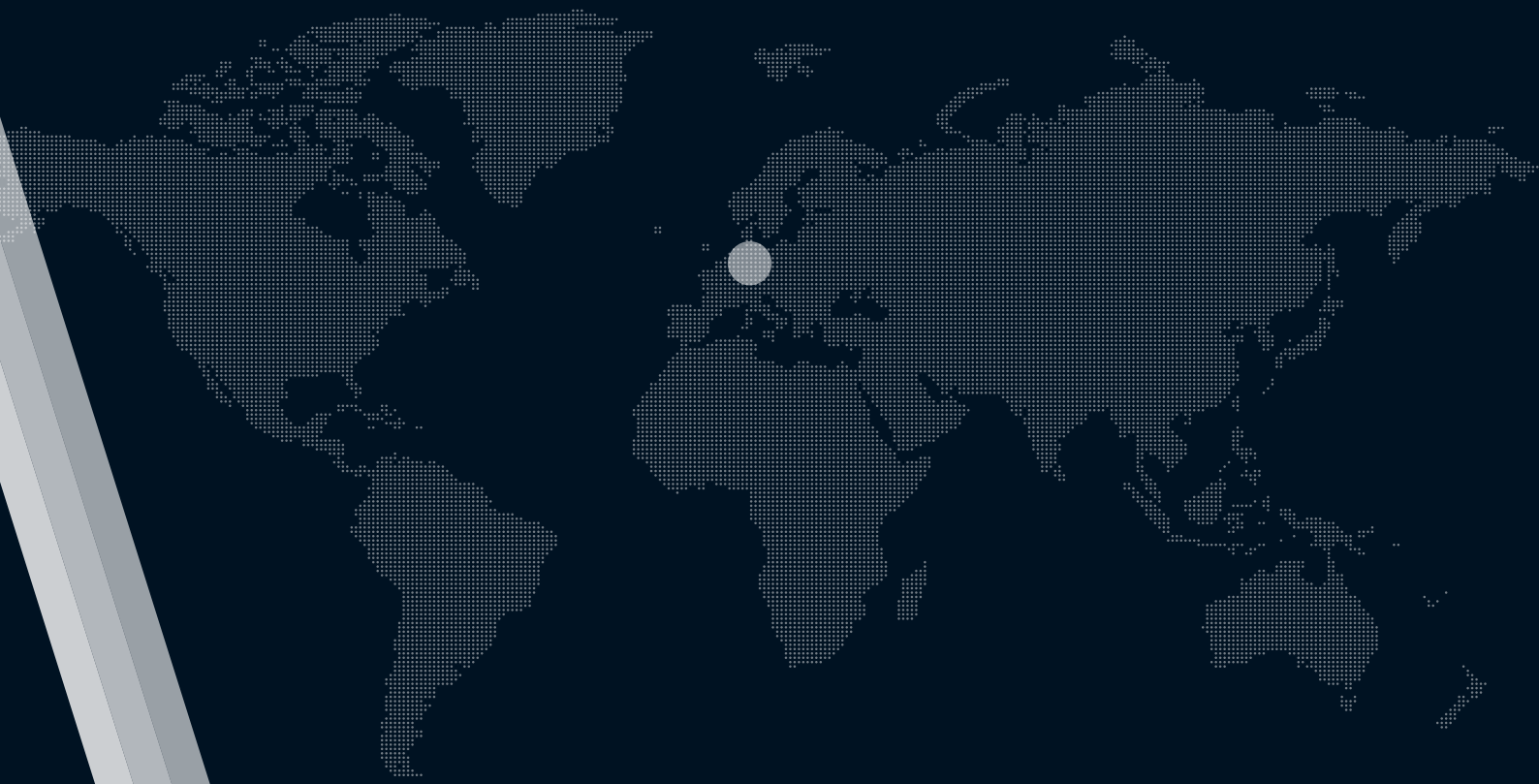




THE DESIGN IS **DONE**

WHEN THE PROBLEM GOES AWAY.

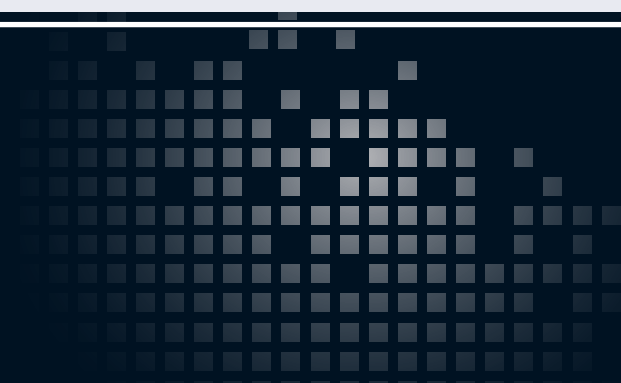




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GERMANY