



# Start seeing sample processing differently

## TO SUPPORT SCIENTIFIC INNOVATION IN YOUR LAB

For comparable results of your assays, having identical conditions across the campaign is important. Choosing the right equipment for the tasks is a key element to success.

### With our products we enable:

- Comparable results and identical conditions across a campaign/run
- Reduce costs and time while increasing quality

## WHY THESE ASPECTS ARE IMPORTANT

### ORBITAL SHAKING supports

- Mixing liquids
- Gentle and reliable processing
- Dis-solving
- Reduce cycle time
- Keep material (cells, beads) in suspension
- Homogenization of samples
- Avoid cross contamination and reduce consumable usage

### TEMPERATURE CONTROL allows

- Evaporation option extraction protocol
- Reduce cycle time
- Constant and controlled parameter
- Activate / deactivate
- Avoid losing reagent activity or degradation
- Optimal temperature for reagents such as cell media, enzymes, antibody, proteins, PCR mastermix

### POSITIONING enables

- Exact positioning of labware on shaker
- Homogeneous force transfer into sample
- Optimal thermal transfer via adapter
- Pipette while shaking
- Plate transfer and pipetting on exact position



## ORDERING INFORMATION

ORDER NO.	FEATURE	INSTRUMENT	
2016-0100*	Heat	HeatPlate	Professional heater thermoblock (RT to 99°C)
2016-0110*	Heat+Cool	ColdPlate	Professional heater-cooler thermoblock (-10 to 99°C, 25 K below RT)
2016-0111*	Heat+Cool	ColdPlate slim	Professional heater-cooler thermoblock, low construction (-10 to 99°C, 25 K below RT)
2016-0015*	Shake	BioShake D30	3.0 mm orbital shaker (200 - 2,000 rpm, orbit 3.0 mm)
2016-0025	Shake	BioShake D30 elm	3.0 mm orbital shaker with ELM (200 - 2,000 rpm, orbit 3.0 mm)
2016-0016*	Shake	BioShake 3000	Universal orbital shaker (200 - 3,000 rpm, orbit 2.0 mm)
2016-0017	Shake	BioShake 3000 elm	High-End microplate shaker with ELM (200 - 3,000 rpm, orbit 2.0 mm)
2016-0018	Shake	BioShake 3000 elm DWP	Ideal shaker for heavy deep well plates with ELM (200 - 3,000 rpm, orbit 2.0 mm)
2016-0022	Shake	BioShake 5000 elm	384/1536 well plate shaker with ELM (200 - 5,000 rpm, orbit 1.2 mm)
2016-0519*	Shake+Heat	BioShake D30-T	3.0 mm orbital thermoshaker (RT to 99 °C, 200 - 2,000 rpm, orbit 3.0 mm)
2016-0518*	Shake+Heat	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*	Shake+Heat	BioShake 3000-T	Universal Thermoshaker (RT to 99°C, 200 - 3,000 rpm, orbit 2.0 mm)
2016-0517*	Shake+Heat	BioShake 3000-T elm	High-End Microplate Thermoshaker with ELM (RT to 99 °C, 200 - 3,000 rpm, orbit 2.0 mm)
2016-0600*	Shake+Heat+Cool	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*	Shake+Heat+Cool	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)
2016-0620*	Shake+Heat+Cool	BioShake Q2	Vials/Tubes heater-cooler shaker (-20 to 99.9°C, 24 K below RT, 200 - 2,000 rpm, orbit 3.0 mm)

\* Adapters are required but not included in delivery and have to be ordered separately

## A VARIETY OF STANDARDIZED THERMAL ADAPTER PLATES

For all automation units QINSTRUMENTS 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.

<https://www.qinstruments.com/automation/adapter/>



### Legal Notices & Trademarks

QINSTRUMENTS is owner of numerous patents worldwide. Please respect our intellectual property.  
 WO2008135565, US8323588, EP2144716: Sample handling device for and methods of handling a sample  
 WO2011113858, US9126162, EP2547431: Positioning unit for a functional unit  
 WO2013113847, US10052598, EP2809436: Cog-based mechanism for generating an orbital shaking motion  
 WO2013113849, US9371889, EP2809435: Mechanism for generating an orbital motion or a rotation motion by inverting a drive direction of a drive unit  
 WO2014207243, US20160368003, EP3013480: Application-specific sample processing by modules surrounding a rotor mechanism for sample mixing and sample separation  
 WO002022128814A1: Laboratory apparatus comprising a fixing mechanism for fixing a slide  
 WO002022128809A2: Laboratory apparatus comprising a mixing mechanism for mixing a medium of a slide  
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 Technical specifications are subject to change without notice.



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## LAB AUTOMATION PRODUCT PORTFOLIO AT THE GLANCE

**QIN'STRUMENTS**   
A BICO COMPANY

## THE RIGHT PRODUCT IS JUST 3 QUESTIONS AWAY!

Where is the system used?  
Which feature is required?  
What labware is used?

	Shake	Shake + Heat	Shake + Heat + Cool	Heat + Cool	Heat
<b>INTEGRATION INTO LIQUID HANDLER/ROBOT</b>					
Microplate - High Density 384 low volume   1536	BioShake 5000 elm 2016-0022	BioShake 3000-T elm 2016-0517	BioShake Q1 2016-0600		
Microplate - Medium Density Shallow well 96   384	BioShake 3000 elm 2016-0017				
Microplate - Low Density 24   48   96   Microplate Reservoir	BioShake D30 elm 2016-0025	BioShake D30-T elm 2016-0518	BioShake Q1 3.0mm 2016-0601	ColdPlate 2016-0110	
Deep Well Plates 48   96   384	BioShake 3000 elm DWP 2016-0018			ColdPlate slim 2016-0111 height reduced version	
Tubes   Vials - Small 0.5 - 2.0 ml Tubes   PCR Tubes	BioShake 3000 2016-0016	BioShake 3000-T 2016-0516	BioShake Q2 2016-0620		HeatPlate 2016-0100
Tubes   Vials -Large > 2.0 ml Tubes   FALCON® Tubes	BioShake D30 2016-0015	BioShake D30-T 2016-0519			
<b>BENCHTOP</b>					
Tubes   Vials	BioShake XP 1808-0505	BioShake iQ 1808-0506			
Microplates	BioShake XP 1808-0505	BioShake iQ 1808-0506			
<b>INTEGRATED INTO DEVICE</b>	OEM   please get in contact for more details				

NO adapter required

### Shake

The unique and patented technique of planar orbital motion offers an ultra-efficient, 2-dimensional shaking process with a constant orbit, independent from the shaking speed.

### Heat

Large-area heating elements and sensors realize a uniform heating surface and enable heating from ambient to 99°C.

### Heat + Cool

Precise temperature control and uniformity in the range of 24 K below RT up to 99°C is achieved by using the novel peltier technology in combination with minimized electronics and reliable control algorithms.

## TECHICAL SPECIFICATIONS

	BioShake 3000	BioShake 3000 elm	BioShake 3000 elm DWP	BioShake D30	BioShake D30 elm	BioShake 5000 elm	BioShake 3000-T	BioShake 3000-T elm	BioShake D30-T	BioShake D30-T elm	HeatPlate	BioShake Q1	BioShake Q1 3.0mm	BioShake Q2	ColdPlate	ColdPlate slim
Part no.	2016-0016	2016-0017	2016-0018	2016-0015	2016-0025	2016-0022	2016-0516	2016-0517	2016-0519	2016-0518	2016-0100	2016-0600	2016-0601	2016-0620	2016-0110	2016-0111
Adapter necessary	optional			optional												
<b>SAMPLE</b>																
384 low vol/1536 plates																
Shallow well 96/384 plates																
24/48/96/Reservoir plates																
48/96/384 Deep Weel plates																
Tubes   Vials 0.5 - 2.0 ml																
Tubes   Vials > 2.0 ml																
<b>MIXING</b>																
Max. mixing frequency [rpm]	3000	3000	3000	2000	2000	5000	3000	3000	2000	2000		3000	2000	2000		
Mixing orbit [mm]	2.0	2.0	2.0	3.0	3.0	1.2	2.0	2.0	3.0	3.0		2.0	3.0	3.0		
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					
<b>ELM</b>																
ELM mechanism																
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			
<b>TEMP</b>							RT to 99 °C   0.1°C increment				24 K below RT to 99.9 °C   0.1 °C inc.					
Temperature setting							7 K/min				16 K/min heat   12 K/min cool		12 K/min			
Temperature speed above RT											12 K/min heat   3 K/min cool		6-12 K/min			
Temperature speed below RT																
<b>PROPERTIES</b>							5 to 45 °C (10-80 % max. relative humidity, non condensing)				15 to 32 °C (10-80 % max. rel. humidity, non condensing)					
Environment operating range																
Dimensions WxD [mm]	142x99	142x99	142x99	142x99	142x99	142x99	142x99	142x99	142x99	142x99	142x99	142x99	142x99	142x99	142x99	235x99
Dimensions Height [mm]	60,75	55.35	55,35	60.75	55.35	55.35	62.7	60.45	62.7	60.45	62.7	97,7	97.7	88.7	79	45.5
Weight [kg]	1.5	1.6	1.6	1.5	1.6	1.6	1.7	1.7	1.6	1.7	1.3	1.65	1.65	1.65	1.4	1.4
<b>DEVICE CTRL</b>	Remote controlled   All electronics built in   No external controller required															
Description	Remote controlled   All electronics built in   No external controller required															
Peripheral Interface	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 corner area (GREEN = ok   RED = error   BLUE = booting   YELLOW = no communication)															
<b>ELECTRICAL</b>	24 V DC   I <sub>max</sub> : 3.1 A   P <sub>max</sub> : 75 Watt						24 V DC   I <sub>max</sub> : 4.5 A   P <sub>max</sub> : 108 Watt									
Operation voltages	24 V DC   I <sub>max</sub> : 3.1 A   P <sub>max</sub> : 75 Watt						24 V DC   I <sub>max</sub> : 4.5 A   P <sub>max</sub> : 108 Watt									
Power supply	Input: 100 - 240 V AC   50 - 60 Hz Output: 24 V DC   I <sub>max</sub> : 5.0 A   P <sub>max</sub> : 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															