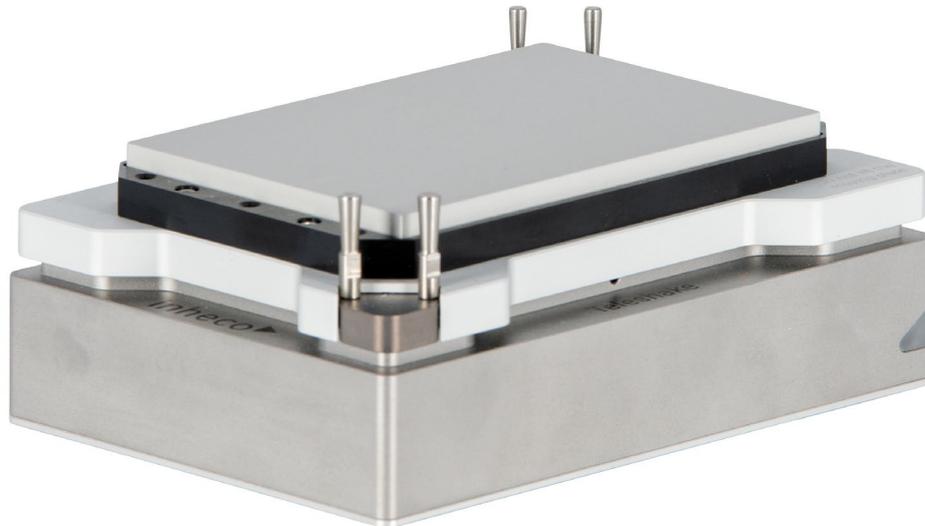


Authorized Distributor



inheco ▶

Heating & Shaking



Teleshake AC USB Teleshake 95 AC USB

Shaking solutions with active clamping and USB interface

High performance compact heater-shaker with onboard controller

The Inheco Teleshake Active Clamping USB's integrated control unit requires no additional electronics, next to or below the deck. Connect control programs or systems direct using a standardized USB interface. Power is supplied via a 24V connection, a commonly used voltage for third-party devices used by liquid handling systems.

Models to match your needs

The Teleshake AC USB is available with or without heating function with a choice of shaking amplitudes (2 or 3mm).

Shaker

- Teleshake AC USB with 2mm amplitude (7100180)
- Teleshake AC USB with 3mm amplitude (7100181)

Heater-shaker

- Teleshake 95 AC USB with 2mm amplitude (7100182)
- Teleshake 95 AC USB with 3mm amplitude (7100183)



Teleshake AC USB



High mass shaking for a wide choice of disposables

Shake loads of up to 500g at up to 3,000 rpm with our auto clamping solution. Now with integrated controller for easier connection via a standardized USB interface, using a standard voltage power supply. Plus a choice of 2mm or 3mm shaking amplitudes.

Microplate shakers are used for mixing samples used in immunoassays, ELISA, cell cultures, and other lab applications that require high throughput screening. Shaking is often preferred to stirring when mixing samples because it has less physical effect on the contents. As part of an automated liquid handling deck a compact shaker can save time and space. It adds precision by providing uniform and replicable shaking using your chosen speed and pattern for the time period required.

The Teleshake AC USB allows you to shake a wide choice of plates, thanks to automated clamping. The powerful motor handle loads up to 500g. Active clamping (automated labware clamping), using customized clamping rods for different labware, lets you use different format plates

without adjustment. That also enables you to shake plates with clamped lids and allows piercing through sealing foils while keeping the plate firmly clamped. The shaking frequency goes up to 3,000rpm and a low-speed start-up process prevents spillage.

Easy to integrate

The Teleshake AC USB takes up just one ANSI/SLAS plate position on deck, occupying little more space than a standard microplate, and is just 60 mm high with a zero positioning function for comfortable robotic gripping.

The Inheco Teleshake Active Clamping USB's integrated control unit requires no additional electronics, next to or below the deck. Connect control programs or systems direct using a standardized USB interface. Power is supplied via a 24V connection, a commonly used voltage for third-party devices used by liquid handling systems.

The LED indicator, visible regardless of the orientation of the on-deck integration, allows service and support staff to check the device status (on or off) quickly and easily.

Application examples



Applications

Why use an on-deck shaker?

Mixing is an essential part of many automated liquid handling processes and shaking is often the preferred method. An on-deck shaker allows consistent replicable mixing for every sample, throughout the day.

What to look for in an on-deck shaker?

It's vital that your shaker provides accurate and uniform shaking for every sample. Secure clamping and wide choice of disposables are important in many processes. Depending on your requirements, you may want to choose an on-deck shaker which can handle heavier loads, or which offers a choice of shaking patterns, or that can be used with other shakers or on-deck devices.

- **Cooling capability** – off-deck and liquid cooled or on-deck heat sink/fan combination
- **Size** – how big a footprint is the shaker?
- **Height** – is it low enough to use deep well plates or disposables with even higher profile when space is limited between the pipetting head and the deck?
- **Can you adjust and control the program run time?**
- **How adjustable is program shaking speed?**
- **What choice of pattern or amplitude do you need** – and what is available?
- **Disposables choice** – can it handle vials and deep wells as well as your preferred microplates?
- **Compatibility with other devices** – how will it connect with your existing deck?
- **Location of control unit** – integrated for simple connection and minimal space, or off-deck to connect up to six devices in parallel?

Technology

Strong shaking for your choice of disposables

The Teleshake AC USB delivers

- Automated clamping mechanism for secure shaking
- Clamping makes this suitable for wide variety of disposables, such as standard ANSI/SLAS plate formats, or other reagent containers or tubes
- Enables piercing of sealed labware and shaking of disposables with lids when using exchangeable customized clamping pins
- Strong shaking motor for faster shaking of heavier loads
- Shaking speed: up to 3,000rpm
- Orbital shaking pattern
- 2 or 3mm shaking amplitude (see product variant)
- Load capacity up to 500g over whole frequency range

Controller

The integrated controller removes the need for extra electronics on or off deck and includes an LED status indicator.

Software

API available. The Inheco Teleshake AC USB is quick to connect, and ready for future developments in your lab.

Verification

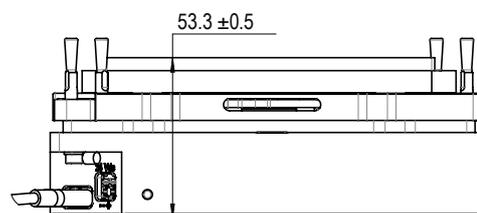
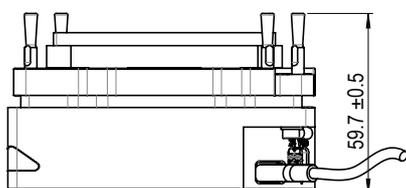
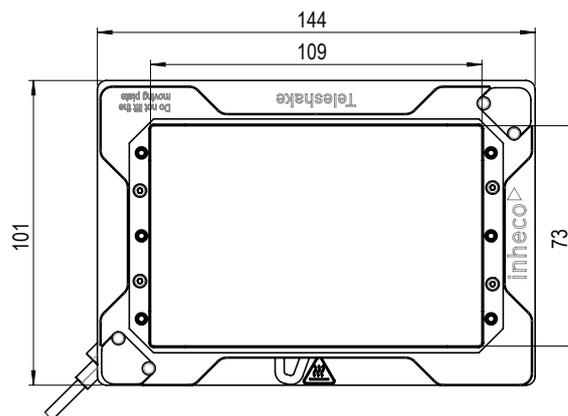
The Inheco measurement plate (IMP) is a stand-alone verification tool which enables wireless verification of temperature, humidity and shaking pattern. So when long term consistency and accuracy are critical, you can easily monitor and measure the performance of your Inheco devices.

Technical data

TECHNICAL DATA INCLUDING DIMENSIONS		
Teleshake AC USB Type	Teleshake AC USB 2mm	Teleshake AC USB 3mm
Product code	7100180	7100181
Height with standard fixation pins	60.2mm [2.370in]	
Length x width	144mm x 101mm [5.669 x 3.976in]	
Noise	Max. 42dB(A)	
Protection category	IP 20	
Weight including cables	2.2kg [4.85lbs]	
TECHNICAL INFORMATION REGARDING SHAKING FOR ALL DEVICES		
Maximum load	1.0kg [2.2lbs]	
Shaker frequency (Weight reduces the max. speed)	Up to 3,000rpm *1	
Shaking amplitude	2mm [0.07874in]	3mm [0.118in]
Shaking pattern	Orbital	
ENVIRONMENTAL CONDITIONS		
Tolerable relative humidity	Operation	10-80% RH at +20°C up to +30°C [+68°F to +86°F] *2
	Transportation and storage	10-80% RH at +20°C up to +30°C [+68°F to +86°F] *2
Temperature	Operation	+15°C to +32°C [+59°F to 90°F]
	Transportation and storage	-10°C to +60°C [+14°F to 140°F] *2

*1 The use of rpm smaller 300 with the Teleshake AC USB is possible. However, the shaking performance cannot be guaranteed. In case the shaking is not steady you will receive a warning "error 35 slot x" (x = slot ID). This error can be ignored if no other error or warning are set at the same time. It is not Inheco's responsibility if there is any method failure due to this low rpm.

*2 Condensate can prevent the shaking devices from operating properly and can damage the Teleshake AC USB. Condensate should be eliminated on a daily basis or more often, for example by heating cycles in between cooling cycles.



Teleshake 95 AC USB



High performance compact heater-shaker with onboard controller and secure fixing for variable plates

For the first time, the proven Teleshake is available with an integrated controller. An external controller box like the STC/MTC is not needed. Communication takes place via a standardized USB interface.

Heat and shake samples up to 500g in weight in a compact device that integrates with all major deck manufacturers. A combined heater-shaker delivers efficiency, precision and cost effectiveness to your sample preparation. They are vital for life science research applications in molecular biology, biochemistry and clinical chemistry including next generation sequencing (NGS). Shaking is preferred to stirring when mixing low volume samples because no additional stirring rod is required, so there's no extra risk of contamination, and a heated shaker can reduce bottlenecks in your workflow by reducing reaction process times and operator workload.

Uniformity and accuracy

The automated clamping of the Teleshake AC USB allows you to shake a wide choice of plates, and the powerful motor can handle loads of up to 500g. The Teleshake 95 AC USB operates in a temperature range of 5K above ambient to 125°C, and delivers excellent performance with

- accuracy at 37°C of $\pm 0.3^\circ\text{C}$
- uniformity at 37°C of $\pm 0.2^\circ\text{C}$.

It can be used to shake samples orbitally with rotation speeds up to 3,000rpm, from a low-speed start to prevent spills.

Adaptable

Use your preferred disposable with the Teleshake 95 AC USB, including microplates, PCR plates, strips, and tubes, and some low-profile reservoirs and polypropylene plates. Active clamping (automated labware clamping), using customized clamping rods for different labware, lets you use different format plates without adjustment. That also enables you to shake plates with clamped lids and allows piercing through sealing foils while keeping the plate firmly clamped. We offer over 200 adapters, manufactured in-house to ensure a perfect fit to the geometry of the disposable item, or can tailor an adapter to fit your needs.

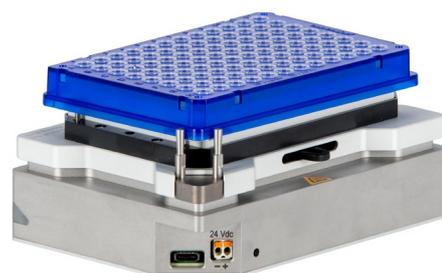
Easy to integrate

The Teleshake 95 AC USB takes up just one ANSI/SLAS plate position on deck, occupying little more space than a standard microplate, and is just 60mm high, with a zero positioning function for comfortable robotic gripping.

Since the control unit is integrated into the Teleshake 95 AC USB, no additional electronics, next to or below the deck, are required. Control programs or systems can be connected directly using a standardized USB interface. Power is supplied via a 24V connection, as is often offered by liquid handling systems to supply third-party devices.

The status LED is positioned in such a way that it is easy to recognize regardless of the orientation of the on-deck integration. The status of the device can thus be recognized quickly and easily, making the work of the service and support staff easier.

Application examples



Applications

Why use a combined heater-shaker?

When you have limited deck space it helps to have devices that offer flexibility and more than one function – as long as you can be sure of excellent performance. Heated shakers allow you to shake heated samples without transferring them, ensuring minimal heat loss and faster processing time.

What to look for in a combined heater-shaker?

Both heating and shaking should be accurate and uniform for every sample. Even heating, safe clamping and wide choice of disposables are important in many processes. Depending on your requirements, you may want to choose a heater shaker which can handle heavier loads, or which offers a choice of shaking patterns.

- **Load** – Handling the heaviest load you are likely to require
- **Shaking options** – Speed, pattern and amplitude (for linear shaking, see our Teleshake 95 Classic)
- **Disposable option** – Do you need active clamping, flexibility to use different disposables including vials and reservoirs, or to be able to use lidded plates?
- **Temperature uniformity** – Delivering identical temperature across the entire block, with identical results for samples in the middle or on the edge of the block, and throughout the run
- **Temperature accuracy** – Ensuring accurate and stable, reproducible temperatures for the duration of the run, and for every sample in the block
- **Small footprint** – Delivering the required performance while taking up as little space on deck as possible

Use of the Teleshake 95 AC USB

The Teleshake 95 AC USB is integrated with liquid handling workstations, in combination with reader and robotic arm, including in PCR and NGS.

Technology

Shaking

The Teleshake 95 AC USB shakes using an electromagnetic motor

- Orbital shaking pattern
- Shaking speed: up to 3,000rpm
- Load up to 500g
- 2 or 3mm shaking amplitude (see product variant)
- Anti-spillage
- Anti-vibration
- Ideal frequency for 96 & 384 plates

Heating

The Teleshake 95 AC USB heats using a heating foil.

- Temperature range: from ambient +5K to +125°C
- Accuracy at 37°C target temperature $\pm 0.3^{\circ}\text{C}$
- Uniformity at 37°C target temperature $\pm 0.2^{\circ}\text{C}$

Controller

The integrated controller removes the need for extra electronics on or off deck and includes an LED status indicator.

Software

API available. The Inheco Teleshake 95 AC USB is quick to connect, direct to your desktop computer, and ready for future developments in your lab.

Verification

The Inheco measurement plate (IMP) is a stand-alone verification tool which enables wireless verification of temperature, humidity and shaking pattern. So, when long term consistency and accuracy are critical, you can easily monitor and measure the performance of your Inheco devices.

Technical data

TECHNICAL DATA INCLUDING DIMENSIONS

Teleshake AC USB Type	Teleshake 95 AC USB 2mm	Teleshake 95 AC USB 3mm
Product code	7100182	7100183
Height with standard fixation pins	60.2mm [5.669 x 3.3976in]	
Length x width	144mm x 101mm [5.669 x 3.976in]	
Temperature range	Up to +125°C [up to +257°C]	
Noise	Max. 42dB(A)	
Protection category	IP 20	
Weight including cables	2.2kg [4.85lbs]	

TECHNICAL INFORMATION REGARDING SHAKING FOR ALL DEVICES

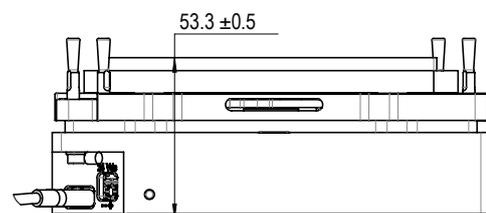
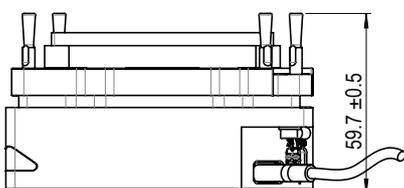
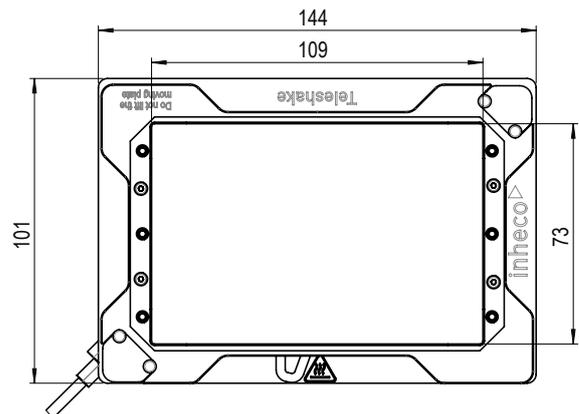
Maximum load	1.0kg [2.2lbs]	
Shaker frequency (Weight reduces the max. speed)	Up to 3,000rpm *1	
Shaking amplitude	2mm [0.07874in]	3mm [0.118in]
Shaking pattern	Orbital	

ENVIRONMENTAL CONDITIONS

Tolerable relative humidity	Operation	10-80% RH at +20°C up to +30°C [+68°F to +86°F] *2
	Transportation and storage	10-80% RH at +20°C up to +30°C [+68°F to +86°F] *2
Temperature	Operation	+15°C to +32°C [+59°F to 90°F]
	Transportation and storage	-10°C to +60°C [+14°F to 140°F] *2

*1 The use of rpm smaller 300 with the Teleshake 95 AC USB is possible. However, the shaking performance cannot be guaranteed. In case the shaking is not steady you will receive a warning "error 35 slot x" (x = slot ID). This error can be ignored if no other error or warning are set at the same time. It is not Inheco's responsibility if there is any method failure due to this low rpm.

*2 Condensate can prevent the shaking devices from operating properly and can damage the Teleshake 95 AC USB. Condensate should be eliminated on a daily basis or more often, for example by heating cycles in between cooling cycles.





Market-leading, Customer-led devices for automated liquid handling platforms

We've been designing, making and supplying devices for automated liquid handling platforms for more than 20 years. Our customers include major manufacturers, integrators and end-users in big pharma, biotech, diagnostics and research & academia. We develop our products based on our customer needs, market knowledge and innovative strength.

Reliable and supported

Every Inheco device is designed, engineered and made in Germany and undergoes rigorous quality control before delivery. It comes with a global two-year warranty and full customer service including remote support, diagnostic and servicing options that focusses on minimizing operational downtime.

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