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Find the *Thermo Variomag Teleshake* at our website: *Click HERE*

Thermo Scientific VARIOMAG®
Magnetic Microplate Shakers



Easy integration with automated laboratory systems

Wear-free operation for peace of mind

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Thermo Scientific Variomag Magnetic Microplate Shakers

Reproducible, worry-free performance with automated laboratory systems

Fast-track discovery in modern pharmaceutical and biotechnology environments is increasingly dependent on automated systems that employ microplate shakers as system-critical components.

Simplicity of integration is a vital consideration, together with a shaker's ability to mix samples effectively and deliver reliable, reproducible performance.

Reproducible, worry-free performance with automated laboratory systems

With their wear-free drives, small footprints and ultra-flat profiles, Thermo Scientific Variomag microplate shakers are the perfect choice for integration with automated laboratory systems.

Unique inductive-drive technology ensures year-after-year of reproducible, maintenance-free operation. A compact design makes integration with even complex laboratory platforms straightforward.

Models support the precise agitation of all SBS-sized microplates and handling by a range of robot grippers for applications that include:

- High-throughput drug screening
- Genomics and proteomics studies
- Cell-based assays
- Toxicology and forensics screening
- Metabolite research



Serial interface control

When integrated with an automated laboratory system, Variomag shaker functions are controlled by the master system software via a serial interface connection:

- Shaking speed and amplitude
- Agitation mode
- Start/stop, timer and interval setting
- Microplate locking mechanisms



Easy-to-use external control

Microprocessor-based external control units for Variomag magnetic microplate shakers provide powerful functionality for stand-alone mixing tasks.



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Versatility and Reliability for Integrated Shaking Applications

Wear-free operation for peace of mind

Our Thermo Scientific Variomag magnetic microplate shakers use proven inductive-drive technology with no moving parts, making them uniquely wear- and maintenance-free.

- Reproducible, variable-speed sample mixing
- Maximized reliability and uptime
- Minimized vibration transfer to other system components

Easy integration with automated laboratory systems

Our Variomag magnetic shakers are only fractionally larger than the microplates they accommodate. Their compact size, ultra-low profiles and serial interfaces* facilitate seamless integration with automated systems, even where space is at a premium.

- RS 232 or RS 485 interface for easy control and monitoring via master system software*
- Comprehensive integration command set/interface protocol documentation*
- Self-centering zero position ensures precise, reproducible connectivity with robotic arms and other system components

Convenient, stand-alone functionality

Although developed with the requirements of the lab automation industry foremost in mind, Thermo Scientific Variomag microplate shakers are equally capable of stand-alone operation on the laboratory bench.

Most models are supplied with a versatile, easy-to-use external control unit, while our Variomag Monoshake shaker offers direct rotary speed control for routine mixing tasks.

** Excludes Variomag Monoshake.*



Our Teleshake 1536 LIFT raises the microplate by 8 mm. Using the lifting function, safe handling by a robot gripper is ensured.

With a footprint measuring just 146 mm wide x 103 mm deep, Variomag magnetic shakers are only fractionally larger than the microplates they accommodate





Thermo Scientific Variomag magnetic shakers are easy to integrate with laboratory robotic systems

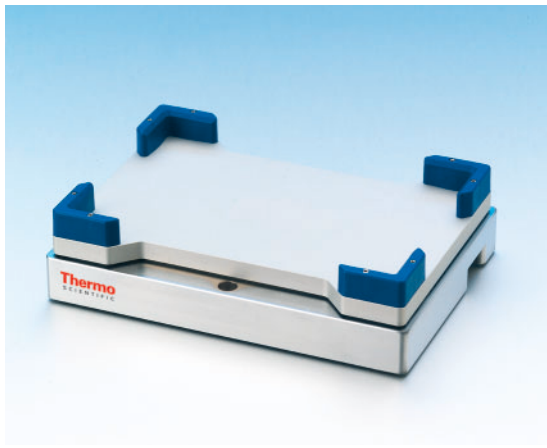
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96- and 384-well microplate shaking

Variomag Teleshake – for integrated shaking applications

Our Variomag Teleshake microplate shaker offers variable mixing speeds up to 2,000 rpm*.

- Rapid switching between circular and linear agitation
- Automatic, low-speed start-up prevents sample spillage
- Simultaneous control of up to 14 shakers via RS 232 interface
- Machined threads and housing holes facilitate easy attachment to a robotic workbench





Variomag Monoshake – for basic benchtop shaking

The Variomag Monoshake microplate shaker employs direct rotary knob control for shaking applications on the laboratory bench.

Features and functions are identical to those of the Variomag Teleshake, with the exception of RS 232 interface capabilities.

- Powerful circular agitation at speeds up to 2,000 rpm*
- Self-centering zero position for safe, unattended operation



**Maximum rpm depends on plate size, liquid type, well fill volume and control method (via serial interface or external control unit).*



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1536- and 384-well microplate shaking



Variomag Teleshake 1536 – for high-speed, integrated applications

Capable of speeds up to 8,500 rpm*, our Variomag Teleshake 1536 shaker is designed to mix samples and critical liquid classes in 1536- and 384-well microplates. Shaking amplitude is adjustable between 0.1 and 1.0 mm.

- Rapid, ultra-quiet shaking at up to 40 x g in the resonance range
- Electromechanical mechanism locks down microplates safely
- Simultaneous control of up to 14 shakers via RS 232 interface
- Available with 6- or 8-position fixing angles
- Machined housing holes, and cable ducts for easy serial installation



Variomag Teleshake 1536 Lift
– for easy processing with a robot gripper

Our Variomag Teleshake 1536 Lift shaker offers all the capabilities of the Variomag Teleshake 1536, with the addition of a lift function to ensure compatibility with commonly-used robotic workstations.

- Lift raises and lowers microplate by 8 mm
- Lift and locking occurs in under 2 seconds

96-, 384- and 1536-well microplate shaking, heating and cooling



Variomag Teleshake 70 – for integrated applications with heating

Variomag Thermoshake – for sophisticated temperature control

Our Variomag Teleshake 70 shaker accommodates any flat-bottomed SBS-sized microplate for heated shaking at temperatures between ambient and +70°C.

Our Variomag Thermoshake model provides more sophisticated temperature control for integrated shaking applications, heating and cooling flat-bottomed microplates at temperatures between +4°C and +70°C.

- Rapid switching between circular, diagonal and linear agitation at speeds up to 2,000 rpm*
- Precise temperature control with even heat distribution
- Automatic, low-speed start-up prevents sample spillage
- RS 485 interface for simultaneous control of up to 123 shakers in one network

**Maximum rpm depends on plate size, liquid type, well fill volume and control method (via serial interface or external control unit).*



Enhanced versatility

Accessories for our temperature-controlled microplate shakers include contact adapters that accommodate 96- and 384-well PCR plates.

Models shown: Variomag Teleshake 70 with adapter plates (top) and Variomag Thermoshake (bottom).

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Technical Specifications

Thermo Scientific Variomag Magnetic Microplate Shakers									
Model	**External Control Unit**	**Microplate Capacity**	**Speed Range[3] (rpm)**	**Shaking Amplitude (mm)**	**Lift Height (mm)**	**Operating Temperature (°C)**	**Operating Conditions (°C)**	**Dimensions W x D x H (mm)**	**Weight (kg)**
Variomag Teleshake[1]	yes	1	100 – 2,000	2	–	–	+5 to +56 @ 95% rH	146 x 103 x 40	2.0
Variomag Monoshake	no	1	100 – 2,000	2	–	–	+5 to +40 @ 80% rH	146 x 103 x 47	2.1
Variomag Teleshake 1536[1]	yes	1	4,000 – 8,500	0.1 – 1.0	–	–	+5 to +40 @ 80% rH	146 x 103 x 56	1.2
Variomag Teleshake 1536 Lift[1]	yes	1	4,000 – 8,500	0.1 – 1.0	8.0	–	+5 to +40 @ 80% rH	146 x 103 x 56	1.2
Variomag Teleshake 70[2]	yes	1	100 – 2,000	2	–	Ambient to +70 ± 0.2	+5 to +40 @ 95% rH	146 x 103 x 58	2.5
Variomag Thermoshake[2]	yes	1	100 – 2,000	2	–	+4 to +70 ± 0.2	+5 to +40 @ 95% rH	146 x 103 x 119	3.1

1. Supplied with external control unit, connection cable, RS 232 interface cable and integration command set manual. 2. Supplied with external control unit, connection cable, RS 485 interface cable and integration command set manual. 3. Displayed values describe maximum range, dependent on plate size, liquid type, well fill volume and control method (via serial interface or external control unit).

Ordering Information

Description	Catalog No.
Variomag Monoshake, with power supply, 230 V	50094308
Variomag Monoshake, with power supply, 230 V UK	50095834
Variomag Monoshake, with power supply, 115 V USA	50094319
Variomag Monoshake, with power supply, 100 V Japan	50095835
Variomag Teleshake, with control unit, 230 V	50094320
Variomag Teleshake, with control unit, 230 V UK	50095890
Variomag Teleshake, with control unit, 115 V USA	50094321
Variomag Teleshake, with control unit, 100 V Japan	50095894
Variomag Teleshake 1536-6, with control unit, 230 V	50101852
Variomag Teleshake 1536-6, with control unit, 230 V UK	50101853
Variomag Teleshake 1536-6, with control unit, 115 V USA	50101854
Variomag Teleshake 1536-6, with control unit, 100 V Japan	50101855

Description	Catalog No.
Variomag Teleshake 1536-8, with control unit, 230 V	50101683
Variomag Teleshake 1536-8, with control unit, 230 V UK	50101685
Variomag Teleshake 1536-8, with control unit, 115 V USA	50101684
Variomag Teleshake 1536-8, with control unit, 100 V Japan	50101687
Variomag Teleshake 1536 Lift, with control unit, 230 V	50101688
Variomag Teleshake 1536 Lift, with control unit, 230 V UK	50101690
Variomag Teleshake 1536 Lift, with control unit, 115 V USA	50101689
Variomag Teleshake 1536 Lift, with control unit, 100 V Japan	50101692
Variomag Teleshake 70, with control unit, 100 – 240 V	50098767
Variomag Thermoshake, with control unit, 100 – 240 V	50098768
Adapter plate for 96-well PCR plates for Teleshake 70 and Thermoshake	50100417
Adapter plate for 384-well PCR plates for Teleshake 70 and Thermoshake	50100418
RS 232/RS 485 converter for Teleshake 70 and Thermoshake	50094930

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