MEASURE IT

ST320 IP67

STCON7 STORP2 STREF2

Electrodes

The OHAUS Starter Series of electrodes are designed to produce exact results time and time again. The Starter Series includes pH, reference, oxidation-reduction potential (ORP), conductivity, dissolved oxygen (DO), and temperature electrodes that can be used in combination with OHAUS bench and portable meters. Perfect for wide range of applications such as environmental, food, beverages or for daily use chemical products.

Top questions to ask

1 Which parameters do you need to measure?
The Starter Series portfolio includes pH, reference, oxidation-reduction potential (ORP) electrodes, as well as conductivity, dissolved oxygen (DO) and temperature probes that can be used together with our bench and portable meters.

2 Do you prefer electrodes with glass or plastic shaft?
Glass shaft is ideal for laboratory, easy-to-clean - can withstand high temperatures and is resistant to corrosive materials and organic solvetns. Plastic shatf is durable and sturdy - moderate resistance to high corrosive materials and organic solvents.

3 Would you choose refillable or non-refillable electrode?
In a refillable electrode a small amount of electrolyte solution leaks through the junction into the test solution and then it can be replenished or refilled through a fill port on the body of the electrode. Such process helps in maintaining accuracy as well as extending the life of the electrode.

Model	Parameters	Measurement range	Temperature range	Shaft material	Temperature Sensor	Item No.
ST420	pH Electrodes	2 to 12 pH	5°C to 90°C	Glass	No	30681115
ST410		0 to 14 pH	5°C to 90°C	Glass	No	30656037
ST350		0 to 14 pH	0 to 100 °C	Glass	Yes	30129354
ST320 IP67 3m		0 to 13 pH	0 to 80 °C	Plastic	Yes	30468960
ST322		0 to 14 pH	5°C to 60°C	Glass	Yes	30681113
ST320		0 to 13 pH	0 to 80 °C	Plastic	Yes	83033967
ST310		0 to 14 pH	0 to 80 °C	Plastic	Yes	83033965
ST280		0 to 14 pH	5°C to 60°C	Glass	No	30681114
ST272		2 to 12 pH	0 to 50 °C	Plastic	No	30393265
ST270		0 to 14 pH	0 to 100 °C	Glass	No	30240974
ST260		0 to 14 pH	0 to 100 °C	Glass	No	30129357
ST230		0 to 14 pH	0 to 100 °C	Glass	No	83033968
ST210		0 to 14 pH	0 to 80 °C	Plastic	No	83033966
STMICRO5		0 to 14 pH	0 to 100 °C	Glass	No	30087566
STMICRO8		0 to 14 pH	0 to 100 °C	Glass	No	30087569
STSURF		2 to 12 pH	0 to 80 °C	Plastic	No	30129470
STPURE		0 to 13 pH	0 to 100 °C	Glass	No	83033969
STORP1	ORP Electrodes	-1000 to 1000 mV	0 to 80 °C	Plastic	No	30038555
STORP2		-1000 to 1000 mV	0 to 100 °C	Glass	No	30038553
STREF1	Reference Electrodes	-	10 to 40 °C	Glass	NA	30059253
STDO11	Dissolved Oxygen Probes	0 to 200%	0 to 50 °C	Plastic	NA	30031639
STDO21, 1m		0.00 to 20.0 mg/L	0 to 60 °C	Plastic	NA	30378544
STDO21, 5m						30378545
STCON3	Conductivity Probes	70 µS/cm to 200 mS/cm (0.5% accuracy) 2 µS/cm to 70 µS/cm (1% to 5% accuracy)	0 to 50 °C	Plastic	NA	83033972
STCON3 IP67 3m		70 µS/cm to 200 mS/cm (0.5% accuracy) 2 µS/cm to 70 µS/cm (1% to 5% accuracy)	0 to 50 °C	Plastic	NA	30468962
STCON5		50 µS/cm to 2 mS/cm	0°C to 80°C	Glass	NA	30681116
STCON7		0.02 µS/cm to 200 µS/cm (0.02 µS/cm accuracy)	0 to 60 °C	Plastic	NA	30080693
STCON8		0.055 µS/cm to 300 µS/cm	0°C to 80°C	Glass	NA	30681117
STCON8 with chamber		0.055 µS/cm to 300 µS/cm	0°C to 80°C	Glass	NA	30681116
STTEMP30	Temperature Probes	0 to 100 °C	0 to 100 °C	Stainless Steel	Yes	83033970

SHAKE IT

SHLD0403DG

SHRK07AL2 SHLDMP03DG ISWV02HDG

Shakers

Wide range of both Open Air Shakers and Incubating and Incubating & Cooling Shakers intended for different applications, offering a variety of capacities and flexibility to maximize sample processing, designed as well to withstand the extreme environments. Perfect for life science applications such as ELISA assays, cell cultures, protein studies, solubility studies, and more.

Top questions to ask

1 **What type of motion are you looking for?**
You can choose your model among OHAUS selection of orbital, rocking, waving and reciprocating shakers.

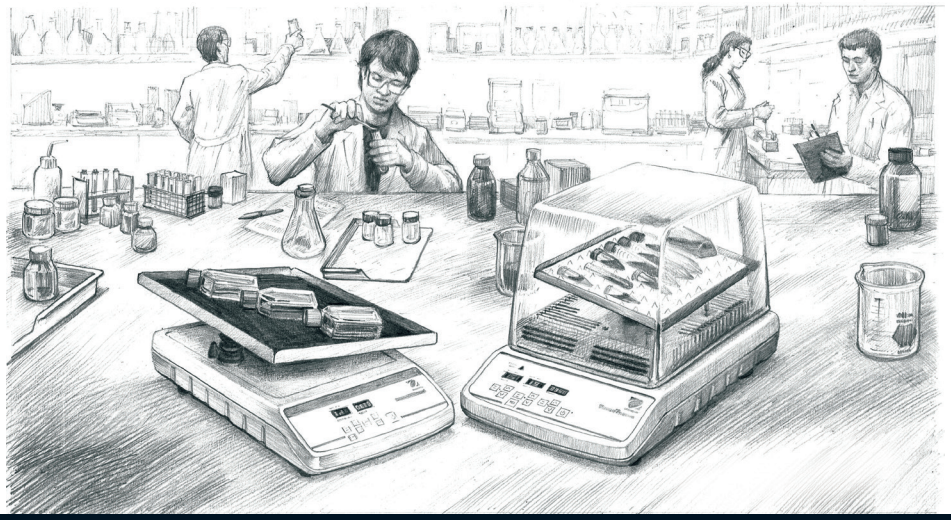
2 **Do you need a specific speed and orbit?**
The larger the sample the larger the orbit and a slower speed is needed for a good mix. For smaller samples, it is the opposite, smaller orbit and faster speed for a good mix.

3 **What size of shaker do you need?**
You can easily find a shaker that can meet required capacity and sample kind. The most common samples are either Erlenmeyer flasks or tubes. The OHAUS Equipment Catalog has a guide in the accessory section listing the number of tube racks or flask clamps each shaker can hold.

4 **Do you need a temperature control?**
Incubating models are available as well as incubating/cooling. Remember, incubating models can begin to control temperature at ~5 °C above whatever the ambient (room) temperature is, so if the customer needs a temperature close to ambient, select a model that can cool.

5 **How important is reproducibility of your settings?**
If it is important, you should recommend a digital (DG) shaker as opposed to an analog (AL). Analog settings are not exact, digital settings are.

6 **Do you need a simple means for capturing your data?**
The OHAUS Thermal Shaker units (ISTHBLHTS and ISTHBLCTS) have a USB. Downloading the data is as simple as inserting a flash drive into the port and selecting USB mode on the utilities menu. Your customer does not need special software. The data is uploaded to a .csv file, similar to an Excel spreadsheet.



Type	Model	Motion	Capacity	Speed Range RPM	Item No
Open Air Shakers	SHLD0415AL	Orbital, 15 mm	3,6 kg	40 to 300	30391893
	SHLD0403DG	Orbital, 3 mm	3,6 kg	100 to 1 200	30391900
	SHLD0415DG	Orbital, 15 mm	3,6 kg	40 to 300	30391914
	SHLDMP03DG	Orbital, 3 mm	4 microplates or 2 micro-tube racks	100 to 1 200	30391907
	SHHSMPDG	Orbital, 3.6 mm	48 microplates or up to 3,2 kg	600 to 2 500	30573785
	SHEX1619DG	Orbital, 19 mm	16 kg	15 to 500	30391816
	SHHD1619AL	Orbital, 19 mm	16 kg	25 to 500	30391802
	SHHD1619DG	Orbital, 19 mm	16 kg	15 to 500	30391811
	SHHD2325AL	Orbital, 25 mm	22,7 kg	25 to 500	30391837
	SHHD2325DG	Orbital, 25 mm	22,7 kg	20 to 500	30391844
	SHHD4525DG	Orbital, 25 mm	45,4 kg	15 to 500	30391865
	SHHD4550DG	Orbital, 51 mm	45,4 kg	15 to 300	30391872
	SHHD6825DG	Orbital, 25 mm	68 kg	15 to 500	30391879
	SHHD6850DG	Orbital, 51 mm	68 kg	15 to 300	30391886
	SHRK07AL1	Rocking, 0 to 15°	7,3 kg	1 to 75	30391954
	SHRK07AL2	Rocking, 0 to 15°	7,3 kg	1 to 75	30391961
	SHRK04DG	Rocking, 0 to 15°	4,5 kg	1 to 50	30391989
	SHWV02AL	Waving, 0 to 16°	2,3 kg	1 to 75	30391968
	SHWV02DG	Waving, 0 to 20°	2,3 kg	1 to 30	30391949
	SHRC0719DG	Reciprocating, 19 mm	6,8 kg	20 to 300	30391830
Incubating Shakers	ISTHBLHTS	Orbital, 3 mm	1 thermal block	300 to 3 000	30392005
	ISTHBLCTS	Orbital, 3 mm	1 thermal block	300 to 3 000	30391998
	ISTHBLCTSN*	Orbital, 3 mm	1 thermal block	300 to 3 000	30573842
	ISTHBLHTSN*	Orbital, 3 mm	1 thermal block	300 to 3 000	30573848
	ISLD04HDG	Orbital, 3 mm	3,6 kg	100 to 1 200	30391919
	ISLDMPHDG	Orbital, 3 mm	4 microplates or 2 micro-tube racks	100 to 1 200	30391933
	ISLDMPHDGL	Orbital, 3 mm		100 to 1 200	30391926
	ISICMBCDG	Orbital, 3 mm	2 microplates 2 modular blocks	100 to 1 200	30391940

*No block included

Type	Model	Motion	Capacity	Speed Range RPM	Item No
Incubating Shakers	ISRK04HDG	Rocking, 0 to 15°	4,5 kg	1 to 50	30391975
	ISWV02HDG	Waving, 0 to 20°	2,3 kg	1 to 30	30391982
	ISHD16HDG	Orbital, 19 mm	16 kg	15 to 500	30573770
	ISHD23CDG	Orbital, 25 mm	22,7 kg	15 to 500	30573780
	ISHD23HDG	Orbital, 25 mm	22,7 kg	15 to 500	30573775

SHHD1619AL

ISWV02HDG

SHEX1619DG

ISICMBCDG

SHHD2325DG

ISTHBLCTS

ISHD16HDG

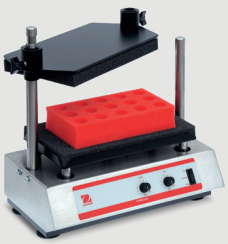
AL - Analog models (e.g., SHLD0415AL), DG - Digital models (e.g., SHLD0403DG)

MIX IT

VXMNDG

VXMPAL

VXHDDG



VXMTAL

Vortex Mixers

Four Mini Vortex Mixer models for gentle to high-speed reliable mixing. Heavy-Duty Vortex Mixers feature a robust design and the highest quality motor to permit continuous-duty operation. Microplate Vortex Mixers are perfect for mixing microplates throughout the speed range and Multi-Tube Vortexers are ideal for hands-free, high-throughput sample processing. Perfect for life science applications such as re-suspending liquids, mixing reagents, genotyping, cell disruptions, and more.

Top questions to ask

1 Do you need to vary the speed of your mix?
OHAUS has analog and digital models with variable speed control.

2 Do you need to use an accessory or run multiple tubes at high speeds?
Most vortex mixers have speed limitations when using an accessory attachment. The OHAUS Microplate, Heavy-Duty and Multi-Tube Vortexers are designed to run at high speeds with their accessories.

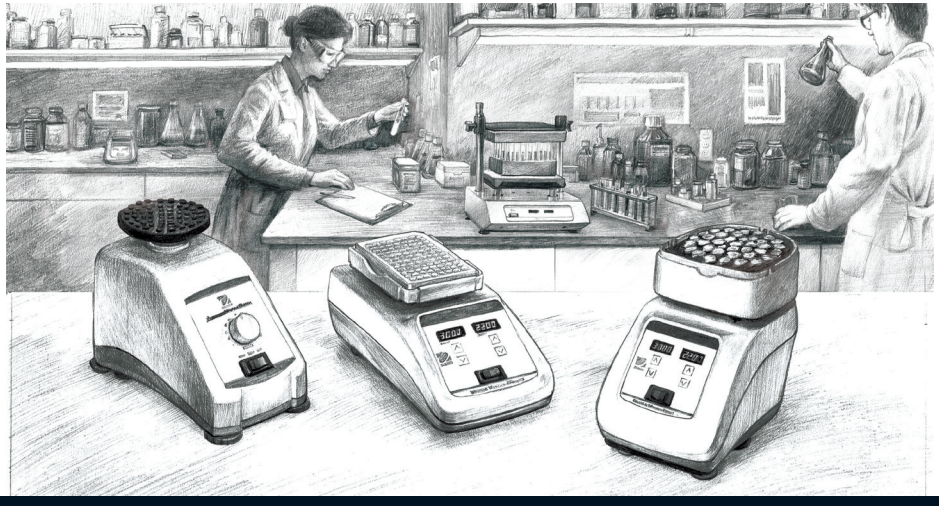
3 Would you like to vortex 50 samples at a time?
OHAUS has analog and digital models that can handle that capacity.

4 Do you need to know the exact speed when vortexing?
Select a digital model for accurate speed values.

Model	Type	Control	Duty Rating	Orbit	Item No.
VXMNFS	Mini	Fixed Speed	Intermittent	4,9 mm	30392110
VXMNAL	Mini	Analog	Intermittent	4,9 mm	30392117
VXMNDG	Mini	Digital	Intermittent	4,9 mm	30392124
VXMNPS	Mini	Pulsing	Intermittent	2,5 mm	30392131
VXHDDG	Heavy-Duty	Digital	Continuous	4,9 mm	30392136
VXHDAL	Heavy-Duty	Analog	Continuous	4,9 mm	30392141
VXMPDG	Microplate	Digital	Continuous	3,5 mm	30392150
VXMPAL	Microplate	Analog	Continuous	3,5 mm	30392155
VXMTAL*	Multi-Tube	Analog	Continuous	3,6 mm	30392166
VXMTDG*	Multi-Tube	Digital	Continuous	3,6 mm	30392173
VXMTALB**	Multi-Tube	Analog	Continuous	3,6 mm	30573832
VXMTDGB**	Multi-Tube	Digital	Continuous	3,6 mm	30573837

* Stainless steel housing

** Painted steel housing



HEAT IT

HB2DG

HB1AL HB6DG HB2DGHL

Dry Block Heaters

Versatile block heaters designed for everyday use with accessories for every application, ideal for applications that require temperature stability. Perfect for life science applications such as incubation and activation of cultures, ELISA and other immunoassays, isothermal incubations, and more.

Top questions to ask

1 **Do you need to incubate small samples like microtubes, microplates, test tubes, or vials?**
OHAUS Dry Block Heaters provide a wide range of block accessories designed to accommodate samples of different types.

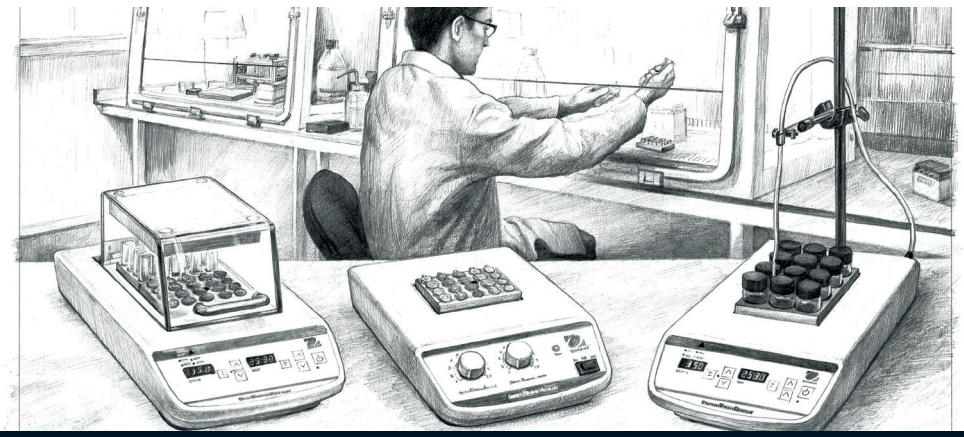
2 **Are you looking for a specific temperature range?**
OHAUS has models that can heat up to 150 °C.

3 **How important is reproducibility of your settings?**
If it is important, you should recommend a digital block heater as opposed to an analog. Analog settings are not exact, digital settings are.

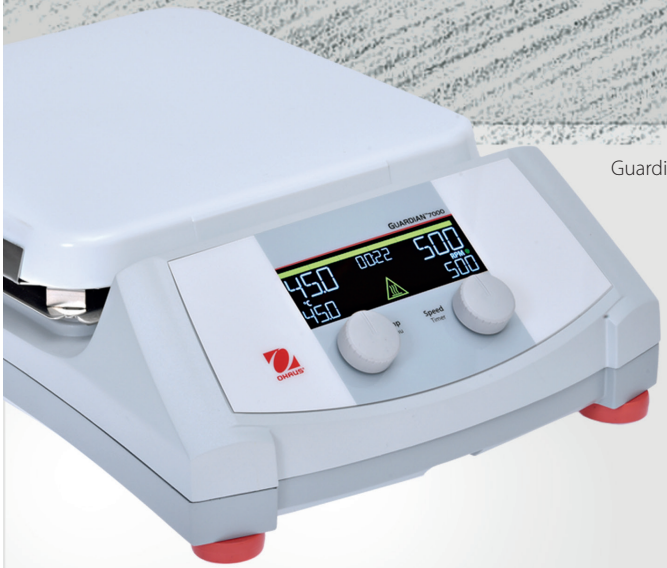
4 **Do you need to calibrate your heater to a traceable temperature device?**
OHAUS models can be calibrated to an external temperature device such as a thermometer, probe or thermocouple.

5 **Is the formation of condensation on your sample lids, caps, and covers causing a problem with your assays?**
If it is, recommend the Block Heater with the Heated Lid.

Model	Number of Blocks	Control	Temperature Range	Stability @ 37 °C	Uniformity Within the Block @ 37 °C	Item No,
HB1DG	1	Digital	Ambient + 5 °C to 120 °C	± 0,2 °C	± 0,2 °C	30392061
HB2DG	2	Digital	Ambient + 5 °C to 120 °C	± 0,2 °C	± 0,2 °C	30392082
HB4DG	4	Digital	Ambient + 5 °C to 120 °C	± 0,2 °C	± 0,2 °C	30392089
HB6DG	6	Digital	Ambient + 5 °C to 120 °C	± 0,2 °C	± 0,2 °C	30392096
HB1AL	1	Analog	Low Range: Ambient +5 °C to 100 °C High Range: 75 °C to 150 °C	± 1,5 °C	± 0,2 °C	30392047
HB2AL	2	Analog		± 2 °C	± 0,2 °C	30392054
HB4AL	4	Analog		± 2,5 °C	± 0,2 °C	30392068
HB6AL	6	Analog		± 2,5 °C	± 0,2 °C	30392075
HB2DGHL	2	Digital	Ambient + 5 °C to 100 °C	± 0,2 °C	± 0,2 °C	30392103



STIR IT



Guardian 7000

A'DESIGN AWARD
WINNER 2022
BRONZE

Guardian 7000 | Guardian 5000 | Guardian 3000 | Guardian 2000

Stirrers, Hotplates & Hotplate-Stirrers

From durable Hotplate Stirrers with superior safety features and intelligent performance to compact and easy-to-use hotplates and stirrers for basic heating and stirring. Perfect for life science applications such as dissolving buffers and reagents, preparing media, concentrating samples, and more.

Top questions to ask

1 Are safety features an important part of your decision process?
Guardian 7000, 5000 and 3000 units feature SafetyHeat™; an industry leading early detection system that uses two independent safety controls to continuously monitor the electronics and will shut off the heating function before an over-temperature condition occurs. Additional protection is available with the Guardian 7000's patented SmartPresence™ & SmartLink™ technologies; exclusive features that automatically shut off the heater if no one is detected after a user set „time out" period has passed. All units feature the innovative SmartHousing™ that stays cool to the touch and is chemical resistant.

2 Do you need precise sample control?
The Guardian 7000, 5000 and 3000 Hotplate Stirrers can be used with a temperature probe when sample temperature is critical. The Guardian 7000 unit's SmartHeat™ allows you to set the maximum temperature of the unit and SmartRate™ enables fast or slow temperature and speed ramp rates. When simple heating and stirring is required the analog Guardian 2000 units will do the job.

3 Are you looking for a specific top plate material?
Ceramic top plates are more chemical resistant, heat up very quickly, and are easy to clean. The white reflective surface aids in viewing the sample. Aluminum and ceramic coated stainless steel top plates offer a more uniform heating surface, will not crack or chip but are more susceptible to corrosion.

4 How important is reproducibility of your settings?
If it is important, you should recommend a Guardian 7000, 5000 and 3000 which is fully digital as opposed to the Guardian 2000 Hotplate Stirrers.

5 What is the volume of your sample?
It is important to select a model that can handle the volume as it may not heat or stir properly if it is undersized. Sample viscosity plays a role in selecting a stirrer. The more viscous the sample, the greater magnetic coupling strength needed. The stir bar size and shape, the distance between the drive magnet and the stir bar, vessel shape and size, speed and viscosity also must be considered.

Guardian Hotplate-Stirrers

Family	Model	Function	Capacity	Plate Construction	Plate Size	Temperature Range	Speed Range RPM	Item No.
Guardian 7000	e-G71HS07C	Heating and Stirring	15 l	Ceramic	17,8 x 17,8 cm	Ambient + 5°C – 500°C	60 to 1 600	30500603
	e-G71HS10C	Heating and Stirring	18 l	Ceramic	25,4 x 25,4 cm	Ambient + 5°C – 500°C	60 to 1 600	30500613
	e-G71HSRDM	Heating and Stirring	20 l	Aluminum	round 13,5 cm	Ambient + 5°C – 380°C	60 to 1 600	30500623
Guardian 5000	e-G51HS07C	Heating and Stirring	15 l	Ceramic	17,8 x 17,8 cm	Ambient + 5°C – 500°C	60 to 1 600	30500523
	e-G51HP07C	Heating	15 l	Ceramic	17,8 x 17,8 cm	Ambient + 5°C – 500°C	—	30500533
	e-G51ST07R	Stirring	15 l	Resin	17,8 x 17,8 cm	—	60 to 1 600	30842198
	e-G51HS10C	Heating and Stirring	18 l	Ceramic	25,4 x 25,4 cm	Ambient + 5°C – 500°C	60 to 1 600	30500553
	e-G51HSRDM	Heating and Stirring	20 l	Aluminum	round 13,5 cm	Ambient + 5°C – 380°C	60 to 1 600	30500563

Family	Model	Function	Capacity	Plate Construction	Plate Size	Temperature Range	Speed Range RPM	Item No.
Guardian 3000	e-G31HS04C	Heating and Stirring	15 l	Ceramic	10,2 x 10,2 cm	Ambient + 5°C – 500°C	80 to 1 600	30680280
	e-G31HS07C	Heating and Stirring	15 l	Ceramic	17,8 x 17,8 cm	Ambient + 5°C – 500°C	80 to 1 600	30680279
	e-G31HSRDS	Heating and Stirring	15 l	Ceramic Coated Stainless Steel	round 13,5 cm	Ambient + 5°C – 380°C	80 to 1 600	30680278
Guardian 2000	e-G21HP04C	Heating	15 l	Ceramic	10,2 x 10,2 cm	Ambient + 70°C – 500°C	—	30680274
	e-G21HS07C	Heating and Stirring	15 l	Ceramic	17,8 x 17,8 cm	Ambient + 70°C – 500°C	200 to 1 600	30680270
	e-G21HP07C	Heating	15 l	Ceramic	17,8 x 17,8 cm	Ambient + 70°C – 500°C	—	30680273
	e-G21HPRDS	Heating	15 l	Ceramic Coated Stainless Steel	round 13,5 cm	Ambient + 50°C – 380°C	—	30680272
	e-G21HSRDS	Heating and Stirring	15 l	Ceramic Coated Stainless Steel	round 13,5 cm	Ambient + 50°C – 380°C	200 to 1 600	30680269
	e-G21HS04C	Heating and Stirring	15 l	Ceramic	10,2 x 10,2 cm	Ambient + 70°C – 500°C	200 to 1 600	30680271
	e-G21STRDS	Stirring	15 l	Ceramic Coated Stainless Steel	round 13,5 cm	—	200 to 1 600	30680275
	e-G21ST07R	Stirring	15 l	Resin	17,8 x 17,8 cm	—	200 to 1 600	30680276
	e-G21ST04R	Stirring	15 l	Resin	10,2 x 10,2 cm	—	200 to 1 600	30680277

OHAUS GUARDIAN SERIES SMART FEATURES

SmartHeat™

Safely control and monitor the maximum temperature with SmartHeat™ which allows you to set the maximum temperature of the Guardian 7000 hotplate stirrer, preventing overheating of sensitive samples.

SmartRate™

For precise sample control with the Guardian 7000, use the included temperature probe and enable SmartRate™ to select fast or slow temperature and speed ramp rates.

SmartPresence™

Exclusive proximity sensor technology in Guardian 7000 recognizes nearby users and safely turns off heating function if none are detected.

SafetyHeat™

Industry-leading internal protection system to assure safety in heating applications with dual monitoring of system health.

SmartLink™

Guardian 7000 SmartLink™ provides long-range user detection for heater safety by installing the OHAUS Bluetooth dongle accessory into the USB port and pairing to a mobile device. If the Bluetooth link is broken, the heating function will safely shut off.

SmartHousing™

With chemical resistant SmartHousing™ that remains cool to the touch at all temperature settings and channels away chemical spills from internal components, the Guardian 7000 and 5000 assures safety in the lab. All units feature a large hot top light that can be seen across the lab when the heater is above 40 °C.

STIR IT

Achiever 5000

Overhead Stirrers

OHAUS Achiever 5000™ Overhead Stirrers are designed for powerful, precise stirring, safety and simplicity in all applications. The sealed design has an IP54 rating and ensures safe mixing performance even in the most demanding applications. The keyless chuck and software controlled speed ramping provide easy set up and safe stirring to protect the sample and user. Select from five models with up to 200 Ncm torque and up to 100 L volume capacity.

Top questions to ask

1 **What is your sample type that you need to stir?**
Choosing the right Overhead Stirrer depends on your unique application. Consider the sample type, volume, composition and physical properties you need to stir. Select the model with the speed range, maximum torque, volume capacity and maximum viscosity specifications that suit your needs.

2 **What is viscosity of your sample?**
Overhead Stirrers are designed to provide more power in stirring which makes them an ideal choice for viscous samples. OHAUS Overhead Stirrers are the perfect solution for demanding applications for samples with viscosities up to 100.000 mPa. Powerful mixing and constant speed is assured with the brushless motor and torque compensation technology – delivering accurate, controlled stirring of viscous liquids with quiet operation

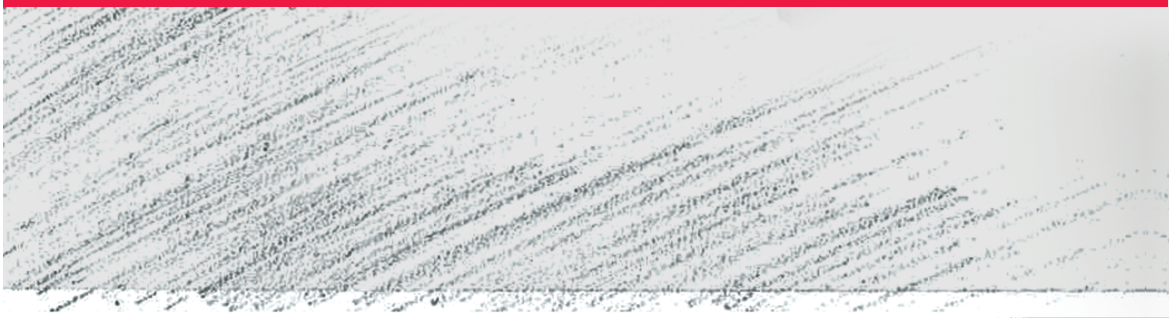
3 **What volume is your sample?**
Always make sure that your stirrer can process large sample volumes. Depending on model, OHAUS Overhead Stirrers can handle sample volumes between 25 to 100 L. Remember the vessel size and shape can affect the flow of the sample; therefore select the vessel size and stirring shaft that will optimize mixing in the application.

4 **What stirring speed your application requires?**
OHAUS Overhead Stirrers are designed for powerful and precise stirring with a speed range from 30 to 2,000 rpms. The software controlled speed ramping provides safe stirring to protect the sample and user and the digital display ensures repeatable results.

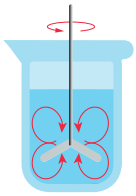
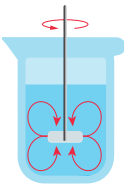
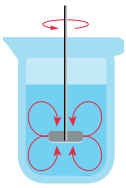
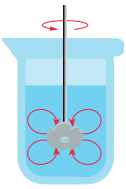
5 **What is your mixing preference?**
A number of different stirring shaft options are available for Overhead Stirrers making them more versatile. OHAUS offers a variety of stirring shafts to suit your mixing preferences. To select the right stirring shaft for your application consider the viscosity, volume of the sample and the desired flow pattern (axial, radial, tangential) you want to generate.

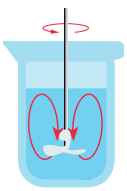
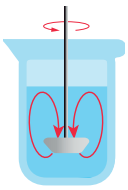
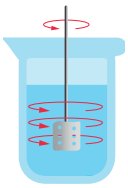
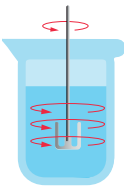
Achiever 5000 Overhead Stirrers

Model	Stirring Speed Range	Stirring Volume (H_2O)	Maximum Viscosity (cP or mPa's)	Maximum Torque (Ncm)	Item No.
e-A51ST020	30-2000 rpm	up to 25 l	10 000	20	30586763
e-A51ST040	30-2000 rpm	up to 25 l	25 000	40	30586764
e-A51ST060	30-2000 rpm	up to 40 l	50 000	60	30586765
e-A51ST100	30-1300 rpm	up to 100 l	70 000	100	30586766
e-A51ST200	6-400 rpm (I), 30-2000 rpm (II)	up to 100 l	100 000	200	30586767



Choosing Stirring Shaft Accessory:

Shape				
Flow Diagram				
Stirring Shaft with	Floating Blades	Fixed Blade	Folding Blade	Turbine
Item Number	30586777	30586776	30586778	30586781
Blade	93 × 11 mm	50 × 10 mm	60 × 15 mm	49 × 10 mm
Shaft Ø	7 mm	7 mm	7 mm	7 mm
Shaft Length	400 mm	400 mm	400 mm	400 mm
Speed Range	250 – Max rpm	250 – Max rpm	250 – Max rpm	250 – Max rpm
Viscosity Range	0 - 1 000 cP	0 - 10 000 cP	0 - 1 000 cP	1 000 - 100 000 cP
Flow Pattern	Radial	Radial	Radial	Radial
Description	Floating Blades align during stirring and create radial flow from top to bottom in the vessel. This blade is ideal for stirring in narrow neck vessels such as flasks.	Fixed Blade creates radial flow from top to bottom in the vessel. Ideal for use at medium to high speeds for stirring light solids, mixing thickening materials, flocculation, etc.	Folding Blade aligns during stirring and creates radial flow from top to bottom in the vessel. This blade is used for stirring in narrow neck vessels.	Turbine creates a high shear, high turbulence radial flow in the vessel. This flow is from top to bottom.

			
			
Propeller	Turbo Propeller	Paddle, 6 Holes	Anchor
30586780	30586782	30586779	30586775
60 × 9 mm	46 × 14 mm	69 × 75 mm	45 × 54 mm
7 mm	7 mm	7 mm	7 mm
400 mm	400 mm	510 mm	400 mm
250 – Max rpm	250 – Max rpm	Up to 800 rpm	All Speeds
0 - 10 000 cP	1 000 - 100 000 cP	0 - 10 000 cP	1 000 - 100 000 cP
Axial	Axial	Tangential	Tangential
Propeller creates axial flow with limited shearing forces. This flow pulls the sample from top to bottom in the vessel.	Turbo Propeller creates a low shearing axial flow in the vessel. This flow pulls the sample from top to bottom and the ring limits the contact of the blade with walls of the vessel or probes.	Paddle creates a reduced turbulence radial flow in the vessel producing gentle mixing of the sample.	Anchor creates tangential flow with high shearing forces on the ends. This flow can prevent sedimentation on the walls of the vessel.

SPIN IT

FC5513

FC5816R

FC5515

FC5714

FC2706

Centrifuges

The Frontier™ Series includes Multi Pro, Micro, Multi, and Mini Centrifuges that have been carefully designed to provide liquid separation for various life science applications such as sample preparation, cell pelleting, nucleic acid extraction, immunoprecipitation and more.

Top questions to ask

1 **What is the highest RCF that you need to prepare your samples for your workflow?**
OHAUS centrifuges have models can reach up to 18,000 rpm generating over 26,000 g.

2 **Which sample tube sizes do you use in your lab?**
An extensive rotor and adapter selection can accommodate just about any lab setup with volume ranging from 0.2 – 750 ml.

3 **Do your samples need to be kept cool during centrifugation?**
The refrigerated centrifuge models can keep your samples cool even when running at the maximum speed.

4 **Are safety features an important feature in your lab?**
Ohaus centrifuges are equipped with additional protective features for redundancy in safety and reliable operation : over-speed protection, active imbalance-detection and motorized lid-locking system to protect operators from accidental injuries.

5 **How many tubes do you want to run at once?**
OHAUS offers a few different rotors that can handle high throughput applications at various RCF.

Model	Speed Range	Maximum Relative Centrifuge Force	Maximum Capacity (Rotor)	Temperature range	Item No.
FC5916	200-16 000 rpm	24 325 × g	4 × 750 ml	-	30553036
FC5916R	200-16 000 rpm	26 331 × g		-20 °C – 40 °C	30553101
FC5816	200-15 000 rpm	21 379 × g	6 × 250 ml	-	30314816
FC5816R	200-16 000 rpm	24 325 × g		-20 °C – 40 °C	30314818
FC5718	200-18 000 rpm	23 542 × g	4 × 100 ml	-	30314812
FC5718R	200-18 000 rpm	23 542 × g		-20 °C – 40 °C	30314814
FC5714	200-14 000 rpm	18 624 × g	4 × 100 ml	-	30314810
FC5515	200-15 200 rpm	21 953 × g	44 x 1,5/2,0 ml; 12 x 5 ml	-	30130866
FC5515R	200-15 200 rpm	21 953 × g		-20 °C – 40 °C	30130868
FC5513	200-13 500 rpm	17 317 × g	24 × 1,5/2,0 ml	-	30393187
FC5513 w/R02	200-13 500 rpm	17 317 × g			30370691
FC5513R	200-13 000 rpm	16 058 x g	24 x 1,5/2,0 ml	-20 °C – 40 °C	83041041
FC5513L w/R06	200-14 000 rpm	15 994 x g	18 x 1,5/2,0 ml	-	83041043
FC5706	200-6 000 rpm	4 427 × g	6 x 50 ml	-	30130875
FC5706 w/R05	200-6 000 rpm	4 427 × g		-	30332131
FC5707 w/R05*	200-6 800 rpm	4 445 × g	8 × 15 ml RB; 4 × 15 ml FA	-	30393189
FC5306	max 6 000 rpm	2 000 × g	8 x 1,5/2,0 ml	-	30134156
FC2706	300-6 000 rpm	3 660 × g	4 x 100 ml	-	30602510
FC2706 w/R07	300-6 000 rpm	3 660 × g	4 x 100 ml	-	30602512
FC2706 w/R11	300-6 000 rpm	3 660 × g	4 x 100 ml	-	30602513
FC2516	300-16 500 rpm	19 080 × g	48 x 1,5/2,0 ml	-	30602511
FC2516 w/R08	300-16 500 rpm	19 080 × g	48 x 1,5/2,0 ml	-	30602528

Rotor in package:

w/R02 Angle Rotor 24x1.5/2ml BIOSEALS
w/R05 Angle Rotor 12x15ml
w/R05* Angle Rotor 8x15ml
w/R06 Angle Rotor 18x1.5/2ml
w/R07 Angle Rotor 12x15ml
w/R11 Angle Rotor 6x50ml
w/R08 Angle Rotor 24x1.5/2ml refermable

BEAT IT

HOHTDG

High-Troughput Lysing Homogenizer

The HT (High-Throughput) Lysing Bead Mill Lab Homogenizer offers efficient solutions for all of your grinding, lysing, pulverizing, mixing and homogenizing sample preparation applications such as DNA, RNA and protein analysis. High-throughput processing is ideal for multiple sample, plate, and tube configurations. High-speed linear motion processes samples quickly.

Top questions to ask

1 **Would you like to increase sample throughput without the added expense of adapters for holding different size tubes or matrixes?**
The OHAUS HT Lysing Homogenizer has an adjustable tray that allows you to use your tube racks, plates, and sample holders without the need for an extra adapter.

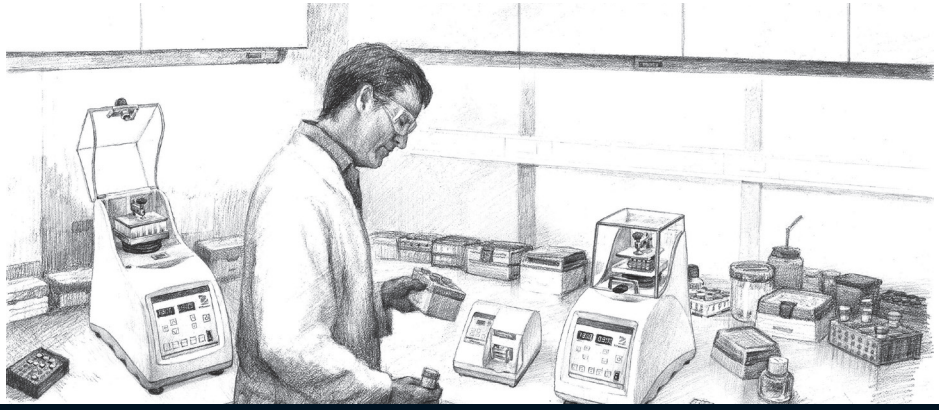
2 **Would you like to save time by taking the guesswork out of determining optimum speed and time for your sample processing?**
The OHAUS HT Lysing Homogenizer provides five preset programs, optimized for speed and time for the most common samples, including bacteria, fungi, plant and animal tissue.

3 **Are you worried the weight capacity of your samples may be problematic, as many competitor models do not list their capacity by weight?**
The OHAUS HT Lysing Homogenizer has a weight capacity of 300 grams.

4 **Do you need an easy way to organize the various types of grinding tubes?**
The OHAUS Lysing Tubes are color coded to help you identify the tubes. The easy-access, dispenser-style box is clearly labeled so you can ensure you are using the right tubes for your application.

Model	HOHTDG
Speed Range	300 to 1600 rpm (1 rpm increments)
Motion	Reciprocal, 31 mm
Timer	1 second to 10 minutes (1 second increments)
Capacity	1 deep well plate, 4 microplates, or any sample matrix that can fit in the 10.2 × 12.7 × 6.4 cm adjustable holder
Maximum Capacity	300 g
Working Environment	5 °C–40 °C, 20%–85% RH, non-condensing
Dimensions (L × W × H)	44.6 × 28.6 × 51.8 cm
Item No.	30391396

	Tube Color	Sample Type	Tube Size	Speed	Time	Item No.
Program 1	White	Bacteria	2 mL	1 500 rpm	5 Minutes	30391402
	Yellow	Yeast				30391404
	Blue	Fungi				30391405
	Orange	Soft Sample				30391406
Program 2	Red	Animal Tissue	2 mL	1 500 rpm	2 Minutes	30391409
Program 3	Green	Plant Material and Seeds	2 mL	1 300 rpm	3 Minutes	30391408
Program 4	Brown	Soil and, Environmental, Samples	2 mL	1 500 rpm	4 Minutes	30391410
Program 5		Cryogenically, Frozen Samples	2 mL	1 600 rpm	1 Minutes	



HOLD IT

3-Prong Dual Adjust Clamp

Clamp

Lab-lift

Lab-frame

LabJaws Clamps and Supports

LabJaws Clamps are designed to securely grip and position laboratory apparatus.
LabJaws offers the largest selection of Lab-Frame Kits, Lab-Lifts, Rods, Support Stands & Connectors in the industry to safely hold labware. Perfect for life science applications such as chromatography, distillations, titrations, fume hood applications, and more.

Top questions to ask

1. **Do you need to use clamps at high temperatures?**
Utility clamps are supplied with vinyl and fiberglass sleeves/finger covers. The fiberglass covers are designed for applications above 100 °C.

2. **Are your clamps corroding from exposure to caustic chemicals?**
The OHAUS LabJaws line offers 20 of the most popular clamps in premium stainless steel which provide exceptional chemical resistance.

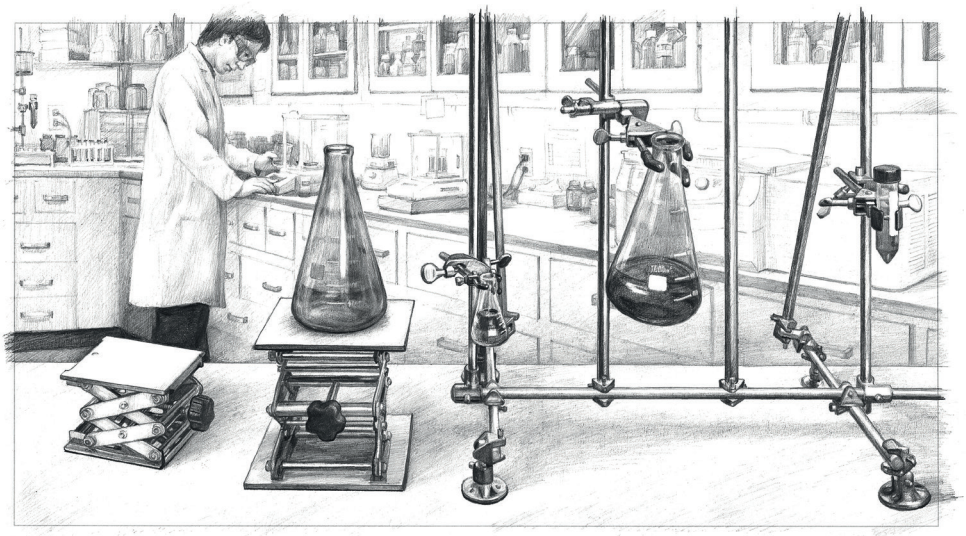
3. **Are you performing titrations with burets?**
The OHAUS LabJaws clamp line has multiple options for holding burets. Buret stands that include a double buret clamp, support rod and base are available or can be ordered individually. Alternately, fixed position clamps with built-in holders can be used on a support stand.

4. **Are you looking for a lab-frame to fit in a specific area?**
OHAUS offers pre-configured kits in 5 sizes. Also, kits for the 4 most common size fume hoods are available.

5. **Are you looking for a lab-frame set up but not finding one to fit your needs?**
If the kits are not what you are looking for, we can aid you in selecting the right rod lengths, connectors and other components based on your specifications.

6. **Do you need to hold small appliances at varying heights?**
OHAUS offers several options. Lab-lifts are designed to support (not raise) various loads based on size. Support plates, available in various sizes, can be secured to a lab-frame or stand.

7. **What is the weight of your sample that you will be supporting or holding?**
While we do not rate our clamps and supports by weight capacity, the OHAUS LabJaws line offers heavy-duty versions of support stands. Cast iron bases offer additional stability compared to the regular stainless steel support stands.



3-Prong Dual Adjust Clamps

Size	Min. to Max Grip Size	Prong Width	Arm Length	Arm Dia.	Overall Length	Item No.
Small	0 to 46 mm	11 mm	102 mm	8 mm	168 mm	30392204
Medium	0 to 69 mm	19 mm	127 mm	11 mm	229 mm	30392201
Medium (extended)	0 to 69 mm	19 mm	305 mm	13 mm	406 mm	30392202
Large	0 to 105 mm	29 mm	127 mm	11 mm	273 mm	30392198
Large (extended)	0 to 105 mm	29 mm	305 mm	13 mm	451 mm	30392199

LabJaws Lifts

Deck Size	Min. to Max. Height	Max. Load	Item No.
76 × 76 mm	64 to 127 mm	45,36 kg	30400000
102 × 102 mm	64 to 127 mm	45,36 kg	30400001
152 × 152 mm	76 to 248 mm	60,33 kg	30400002
203 × 203 mm	76 to 248 mm	102,97 kg	30400003
254 × 254 mm	89 to 330 mm	112,04 kg	30400004
305 × 305 mm	102 to 495 mm	45,36 kg	30400005
406 × 406 mm	102 to 495 mm	45,36 kg	30400006

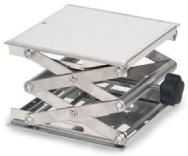
LabJaws Frames

Frame Dimensions	Base Dimensions	Aluminium Item No.	Stainless Steel Item No.
610 × 610 mm	457 mm wide	30392304	30392323
610 × 1219 mm	457 mm wide	30392305	30392324
1219 × 1219 mm	457 mm wide	30392306	30392325
1219 × 1829 mm	—	30392307	30392326

Small 30392204

Medium 30392201

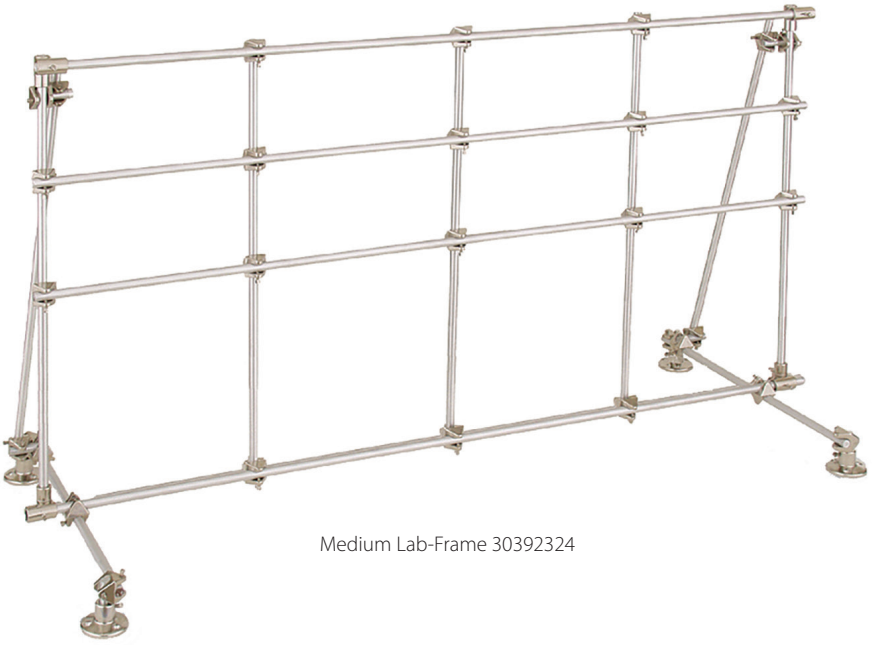
Large 30392198



30400002

30400003

30400004



Medium Lab-Frame 30392324

OHAUS Corporation

Headquartered in Parsippany, New Jersey, OHAUS Corporation is a global leader in manufacturing an extensive line of weighing products, laboratory equipment and analytical instruments that meet and surpass the weighing and measurement needs of a broad range of industries, including laboratory, industrial, educational, food preparation and retail markets. An ISO 9001:2015 manufacturer, OHAUS develops products that are precise, reliable, affordable and backed by industry-leading customer support.

Ingeniously Practical

OHAUS Europe GmbH
Heuwinkelstrasse 3, 8606 Nänikon, Switzerland
ssc@ohaus.com, tsc@ohaus.com