

BATHS

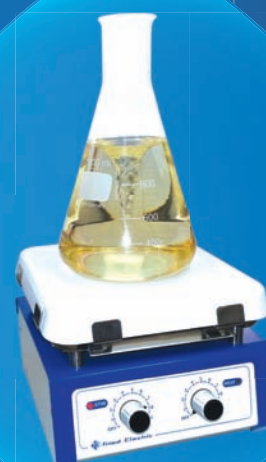
SHAKERS

STIRRERS

HOTPLATES

INCUBATORS

HEATING
MANTLES



HOTPLATES

ALUMINIUM TOP HOTPLATES



**HP-6
175x175mm
hotplate**

HP Series Aluminium Top Hotplates

Uniform Heating at a Reasonable Price!

This modern range of aluminium hotplates provides superior temperature uniformity and stability is available in 7 sizes.

**GHP-4
250x250mm
hotplate**



**HP-1
115x115mm
hotplate**

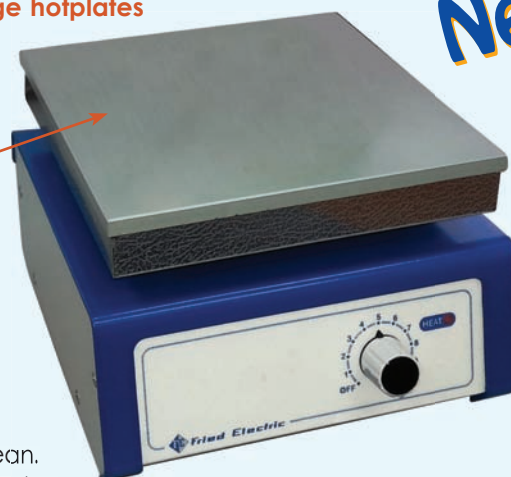
Compact & lightweight hotplate, great to use in limited space. Making possible for processing of delicate materials at low critical temperatures.



**E-1
Iron hotplate,
up to 450°C, dia. 80mm**

**HP-6-xxx
Large hotplates**

**400x400mm
400x600mm
600x600mm
Digital or Analog**



Application:

- Distillations, extractions & digestions
- Heat aqueous reagents
- Semiconductor baking
- Acid/Base digestions – trace metal analysis. etc.
- Sample drying
- General reagent heating
- Heating TLC plates
- Evaporations
- Warning/curing applications – pastes, adhesives, & solder
- Ideal for general lab heating
- Liquid evaporations

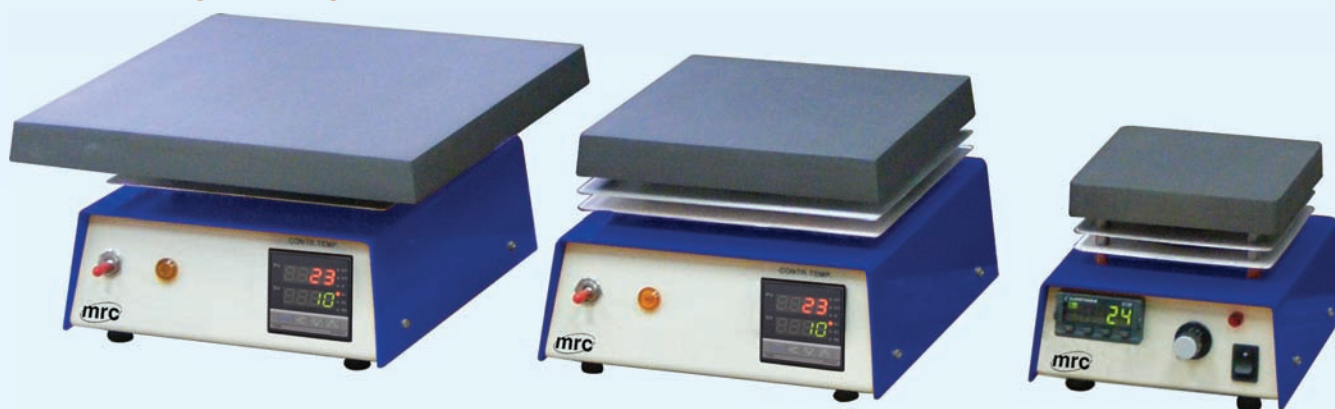
Features:

- Chemical resistant top plate, easy to clean.
- Excellent heat conduction distributes the heat evenly and uniformly over the entire heating surface.
- Sensitive "stepless" temperature control is maintained by means of a hydraulic thermostat with minimum overshoot and undershoot Making possible the processing of delicate materials at low critical temperatures.
- Pilot lamp indicates when heat is on.
- Special radiation shields keep apparatus relatively cool during continuous operation.
- Supplied with a 3-wire line cord and sturdy screw type support device at the rear of the base to hold standard rod.

Model	Temperature range	Top plate	Dimensions	Watt	Weight
HP-1	40–300°C (optional 350°C)	115x115mm	W140xH110xD220mm	450W	1.2kg
HP-6	40–300°C (optional 350°C)	175x175mm	W200xH150xD260mm	750W	2.3kg
GHP-4	40–300°C (optional 350°C)	250x250mm	W250xH150xD260mm	1500W	3.3kg
E-1	up to 450°C	Diameter 80mm	W120xH120xD180mm	450W	1.1kg

DIGITAL & PROGRAMMABLE HOTPLATES, ALUMINIUM TOP

HP-D Series Digital & Programmable Hotplates, Aluminium Top



GHP-4D
250x250mm Hotplate

HP-4D
175x175mm Hotplate

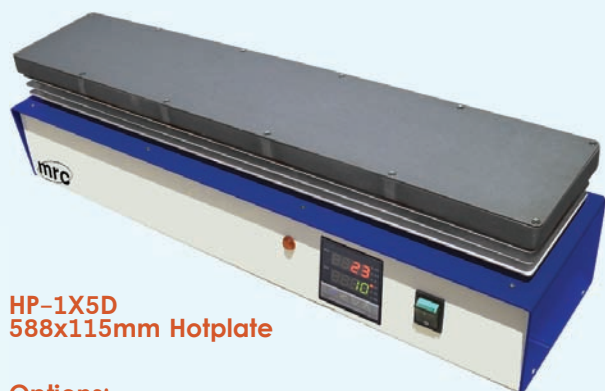
HP-1D
115x115mm Hotplate

Application:

- Distillations, extractions and digestions
- Heat aqueous reagents
- Semiconductor baking
- Acid/Base digestions - trace metal analysis. etc.
- Sample drying
- General reagent heating
- Heating TLC plates
- Evaporations
- Warming/curing applications-pastes, adhesives, and solder
- Viscosity studies
- Reaction optimization
- Solubility studies
- Safety thermostat.

Features:

- Temperature can be displayed in °C or °F.
- Digital timer and ramp to temperature function.
- Digital set-point and read-out of actual temperature.
- PID microprocessor controller provides precise temperature regulation all over the temp. range, include the low temp close to the ambient.
- Temperature may be controlled either at the plate surface by internal sensor, or at the sample by a Thermocouple Immersion probe.
- Safety: in the event of broken sensor, power to the heater is shut-down.
- Temperature range: above ambient to 300°C (optional 400°C).
- Chemical resistant top plate, easy to clean.
- Excellent heat conduction distributes the heat evenly & uniformity over the entire heating surface.
- Pilot lamp indicates when heat is on.
- Special radiation shields keep apparatus relatively cool during continuous operation.
- Support device at the rear of the base.
- Option: External temp. sensor 200mm length, 3.2mm diameter.



HP-1X5D
588x115mm Hotplate

Options:

- RS232 Communication
- RS485 Communication
- Separate Control box.
- Programmer
- Up to 400°C



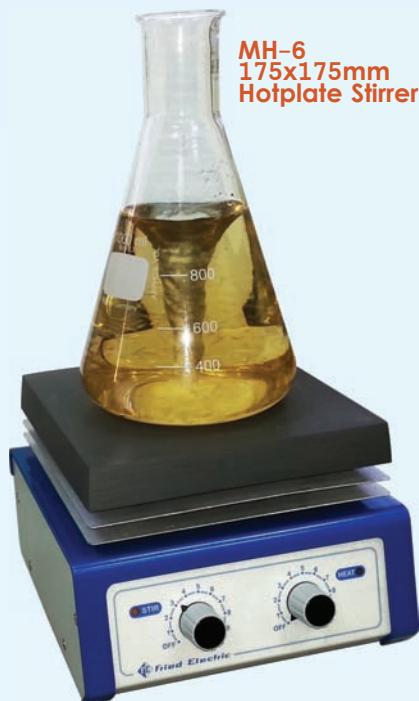
GHP-4X2D
500x250mm Hotplate
Large surface for large loads

Model	Temp. range	Top plate	Temp. stability	Dimensions	Watt	Weight
HP-1D	40-300°C (optional 400°C)	115x115mm	±1°	W140xH110xD220mm	450W	1.3kg
HP-4D	40-300°C (optional 400°C)	175x175mm	±1°	W200xH150xD260mm	750W	2.4kg
GHP-4D	40-300°C (optional 400°C)	250x250mm	±1°	W250xH150xD260mm	1500W	3.4kg
GHP-4X2D	40-300°C (optional 400°C)	500x250mm	±1°	W500xH150xD250mm	3000W	6.6kg
HP-1X5D	40-300°C (optional 400°C)	588x115mm	±1°	W600xH150xD145mm	2000W	5kg

MAGNETIC STIRRERS ALUMINIUM TOP HOTPLATES

MH-Series Hotplate Magnetic Stirrers

MH-6
175x175mm
Hotplate Stirrer



Powerful Stirring and Uniform Heating!

Quiet direct drive motor/magnet system provides speed from 100 to 1200 RPM.



GMH-5
250x250mm
Hotplate Stirrer



MH-1

Compact & lightweight hotplate, great to use in limited space. Making possible the processing of delicate materials at low critical temperatures.

★ ★ ★
German AC Motor
Robust & Maintenance
Free Design
★ ★ ★

Features:

- Chemical resistant top plate, easy to clean.
- Excellent heat conduction distributes the heat evenly & uniformity over the entire heating surface.
- Sensitive "stepless" temperature control is maintained by means of a hydraulic thermostat with minimum overshoot & undershoot Making possible the processing of delicate materials at low critical temperatures.
- Pilot lamp indicates when heat is on.
- Special radiation shields keep apparatus relatively cool during continuous operation.
- Supplied with a 3-wire line cord and sturdy screw type support device at the rear of the base to hold standard rod.
- Designed for continuous use, to handle fluids of varying viscosities in up to 30Liter capacity
- Gentle or vigorous stirring

Applications:

- Warming/mixing applications - gels, pastes, & adhesives
- Standard reagent mixing & heating
- Preparing culture media
- Evaporation and distillation procedures
- Titration requiring heating and stirring of solution
- General microbiological applications.
- Gentle heating
- Micro scale chemistry
- General lab heating & stirring
- Sample drying
- Media preparation

MH-1 115x115mm Hotplate Stirrer

GMH-5 For large capacity up to 30Liter, stir viscous solution

For Continues
Work

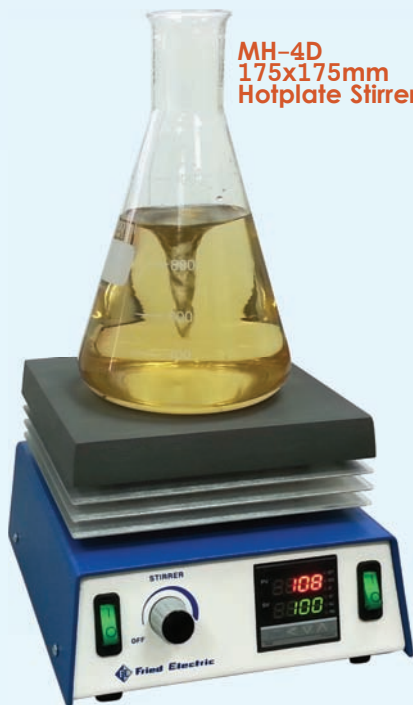


Specifications:

Model	Temp. range	Speed range	Capacity max.	Top plate	Dimensions	Watt	Weight
MH-1	40-300°C (optional 350°C)	100-1200rpm	8 Liter	115x115mm	W140xH110xD220mm	450W	1.9kg
MH-6	40-300°C (optional 350°C)	100-1200rpm	10 Liter	175x175mm	W200xH150xD260mm	750W	3kg
MH-5	40-300°C (optional 350°C)	100-1400rpm	25 Liter	175x175mm	W200xH150xD260mm	750W	3.4kg
GMH-5	40-300°C (optional 350°C)	100-1400rpm	30 Liter	250x250mm	W250xH150xD260mm	1500W	4.4kg

DIGITAL MAGNETIC STIRRERS ALUMINIUM TOP HOTPLATES

MH-D Series Digital Magnetic Stirrers



★ ★ ★
German AC Motor
Robust & Maintenance
Free Design
★ ★ ★

Application:

- Warming/mixing applications - gels, pastes, & adhesives.
- Standard reagent mixing and heating.
- Preparing culture media.
- Evaporation and distillation procedures.
- Titration requiring heating & stirring of solution.
- General microbiological applications.
- Gentle heating.
- Micro scale chemistry.
- General lab heating & stirring.
- Sample drying.
- Media preparation.

Options:

- RS232 Communication
- RS485 Communication
- Separate Control box.
- Programmer
- Up to 400°C



Features:

- Temperature can be displayed in °C or °F.
- Digital timer and ramp to temperature function.
- Digital set-point and read-out of actual temperature.
- PID microprocessor controller provides precise temperature regulation all over the temp. range, include the low temp close to the ambient.
- Temperature may be controlled either at the plate surface by internal sensor, or at the sample by a Thermocouple Immersion probe.
- Safety: in the event of broken sensor, power to the heater is shut-down.
- Temperature range :above ambient to 300°C (optional 400°C).
- Chemical resistant top plate, easy to clean.
- Excellent heat conduction distributes the heat evenly and uniformity over the entire heating surface.
- Pilot lamp indicates when heat is on.
- Special radiation shields keep apparatus relatively cool during continuous operation.
- Designed for continuous use, to handle fluids of varying viscosities in up to 30Liter capacity.
- Available in 3 models to accommodate most laboratory applications requiring mixing and temperature control.
- Gentle or vigorous stirring.

Specifications:

Model	Temp. range	Speed range	Capacity max.	Top plate	Dimensions	Watt	Weight
MH-4D	40-300°C (optional 400°C)	100-1200rpm	10 Liter	175x175mm	W200xH150xD260mm	750W	3kg
MH-5D	40-300°C (optional 400°C)	100-1400rpm	20 Liter	175x175mm	W250xH150xD260mm	750W	3.1kg
GMH-5D	40-300°C (optional 400°C)	100-1400rpm	30 Liter	250x250mm	W500xH150xD250mm	1500W	3.5kg

CERAMIC HOTPLATES / STIRRERS

MHK-1 & MHK-6, Analog Models



HPK-4D & MHK-4D, Digital Models Measures Temp. in Sample



Features:

- High impact strength, Acid and alkali resistance
- Heats rapidly up to 500°C in 8 minutes
- Stepless heat control
- Ceramic top remains perfectly flat to ensure maximum heat transfer.
- Reflective white top makes sample viewing easy.
- Not recommended for use with metal vessels.

Applications:

- Models are excellent for microscale chemistry
- General lab heating and stirring
- Sample drying
- Media preparation
- General microbiological applications.

★ ★ ★
**German AC Motor
Robust & Maintenance
Free Design**
★ ★ ★

Features:

- Microprocessor closed-loop control
- Digital display of all parameters for easy operation. Temperature can be displayed in °C or °F
- PID microprocessor controller provides precise temperature regulation all over the temp. range, include the low temp close to the ambient.
- Temperature may be controlled either at the plate surface by internal sensor, or at the sample by a Thermocouple Immersion probe.

Description:

- Solid state feedback control monitors & adapts to sudden changes in ambient or sample temperature, preventing boil-overs, ruined samples, and lost time.
- Digital display for quick and easy observation.
- Previous set point is stored in memory & will appear on the display when the unit is switched on.

Options:

- RS232 Communication
- RS485 Communication
- Separate Control box.

Back Panel

support device at the rear of the base to hold standard rod.

Model	Temp. range	Top-plate	Temp. control	Magnetic stirrer
HPK-4	up to 500°C	175x175mm	Analog	No
HPK-4D	up to 500°C	175x175mm	Digital	No
MHK-6	up to 500°C	175x175mm	Analog	100~1200rpm
MHK-4D	up to 500°C	175x175mm	Digital	100~1200rpm
HPK-1	up to 500°C	115x115mm	Analog	No
HPK-1D	up to 500°C	115x115mm	Digital	No
MHK-1	up to 500°C	115x115mm	Analog	100~1200rpm

MULTI-POSITION HOTPLATE STIRRERS

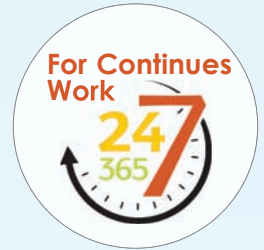


MH-1/6, 6 position hotplate stirrer

MH-1/4, 4 position hotplate stirrer

MH-1/3 3 position hotplate stirrer

MH-1/2
2 position
hotplate stirrer



MH-1/2x2,
4 position hotplate stirrer



MH-1/3x2,
6 position hotplate stirrer

Model: MH-1/6, 6 Positions

Dimensions: Overall W81xH14.5xD22cm
(Includes support rod clamp)

Power: 230V (or 115V), 50/60Hz, 2400W-6x400W

Net weight: 12Kg.

Model: MH-1/4, 4 Positions

Dimensions: Overall W60.5xH14.5xD22cm

Power: 1600 watt-4x400 watt.

Weight: 8Kg.

Model MH-1/3, 3 positions, 1200watt

Model MH-1/2, 2 positions, 800watt

Model: MH-1/2x2, 4 Positions

Dimensions: Top plate 11.5x11.5cm

Overall W30xH14.5xD31cm

(D includes support rod clamp)

Placed in two rows 2+2

Power: 230V (or 115V), 50/60Hz, 1600W-4x400W

Net weight: 8Kg.

Model: MH-1/3x2

Dimensions: Top plate 11.5x11.5cm,

Overall W45xH14.5xD31cm

Power: 2400 watt-6x400 watt.

Weight: 12Kg.

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**German AC Motor
Robust & Maintenance
Free Design**

★ ★ ★

Multi-Position Hotplate Stirrers, 2,3,4 Or 6 Places

- Aluminium Top Plate 115x115mm
- Independent Heating & Stirring Control
- up to 300°C (optional 350°C)/1600 rpm
- Excellent for multi-use and a wide various sample testing.
- Multi position hotplate stirrer with 2,3,4,6 positions.
- Independent Heating and Stirring Control.
- Maximum Temperature of 300°C (optional 350°C).
- Aluminium tops are chemical resistant & heat up quickly and uniformly. Great for low temperature applications.
- Units are built from durable cast aluminium cases & painted with chemically resistant paint.
- Individually controlled stirring and heating positions.
- Each position can be used to stir only, heat only or heat and stir at the same time.
- Ideal for a narrow bench-top or for applications needing support rack system.
- Stirrers are equipped with strong magnets and high torque motors. Up to 8 Liter of water for each position.

CERAMIC HOTPLATE STIRRERS MULTI-POSITION



MHK-1/6, 6 Positions

115x115mm hotplate

MHK-1/4, 4 Positions

MHK-1/3, 3 Positions

MHK-1/2
2 Positions

★ ★ ★
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 Free Design**
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Model: MHK-1/6, 6 Positions

Dimensions: Overall W81xH14.5xD22cm
 (Includes support rod clamp)
Power: 230V (or 115V), 50/60Hz, 2400Watt-6x400W
Net weight: 12Kg

Model: MHK-1/4, 4 Positions

Dimensions: 60.5x14.5x22cm
Power: 1600 watt-4x400 watt
Net weight: 8 kg

Model: MHK-1/3 3 positions, power 1200watt
Model: MHK-1/2 2 positions, power 800watt

Model: MHK-1/2x3

Dimensions: Overall W45xH14.5xD31cm
 (Includes support rod clamp)
 Placed in two rows 3+3
Power: 230V (or 115V), 50/60Hz, 2400W-6x400W
Net weight: 12Kg

Model: MHK-1/2x2

Dimensions: 30x14.5x31cm
Power: 1600 watt-4x400 watt
Weight: 8 kg

Model: MHK-4/3 3 positions, 175x175mm plate,
 3x1100watt=3300watt

Model: MHK-4/2 2 positions, 175x175mm plate,
 2x1100watt=2200watt.



MHK-1/2x2
4 Positions

115x115mm hotplate

MHK-1/2x3
6 Positions

175x175mm hotplate

MHK-4/2
2 Positions

175x175mm hotplate

MHK-4/3
3 Positions

Ceramic Hotplate Stirrers Multi-Position, 2,3,4 Or 6 Places, 115x115mm or 175x175mm

- Heat to 500°C on plate surface in minutes
- Stir from up to 1600 rpm on each stirring position with individual controls.
- Plate size for all units is 115x115 or 175x175mm.
- Solid ceramic heater surface for excellent chemical resistance.
- Multi position hotplate stirrer with 2,3,4,6 positions.
- Individually controlled stirring and heating positions.
- Each position can be used to stir only, heat only or heat and stir at the same time.
- Ideal for a narrow bench-top or for applications needing support rack system.
- Stirrers are equipped with strong magnets & high torque motors, up to 8 Liter of water.



MHK-4/3D, Digital temp. Controller+Timer, 175x175mm

HEATING TAPES



HT1-1 & HT1-2

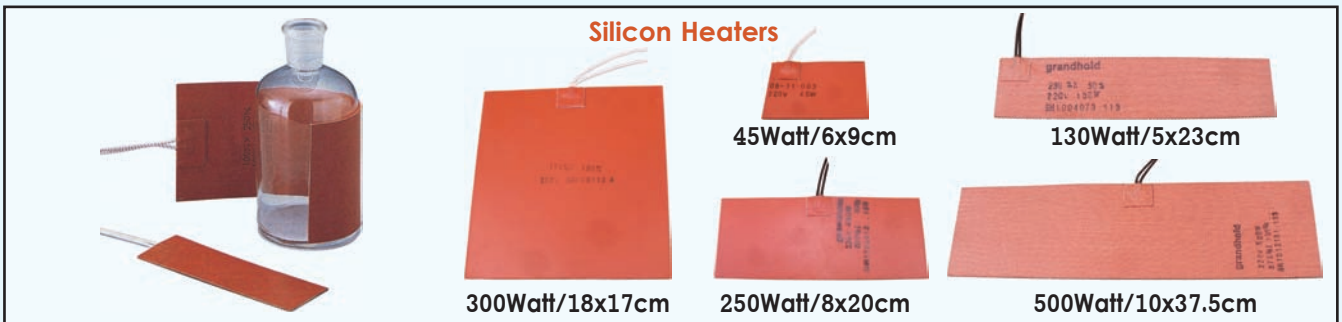
Heating Tapes Width 1" up to 450°C

- Extremely flexible.
- Exceptional durability.
- Rapid temp. response.
- Max. Exposure temp. 450°C
- Choice of power plugs
- Temp. or voltage controller required.
- Electrical cable length 80cm.
- Perfect for heating of curved parts of irregular shapes such as valve, pump, vacuum line, pipe, flange, elbow, etc.
- It must be used with a separate temperature voltage controller.
- Insulation type fiber glass.
- Technical Data:
 - Heating Element: Ni-chrome wire.
 - Heating Element Temperature: Up to 450°C
 - Power Supply: AC220 ~230V, 50/60Hz
- Products are not waterproof.



HT11-2.5

Model	Width (") x Length (m)	Wattage
HT 1-1	1"x1m	200 W
HT 1-1.5	1"x1.5m	250 W
HT 1-2	1"x2m	300 W
HT 1-2.5	1"x2.5m	350 W
HT 1-3	1"x3m	400 W
HT 1-4	1"x4m	460 W



Silicon Heaters

300Watt/18x17cm

45Watt/6x9cm

250Watt/8x20cm

130Watt/5x23cm

500Watt/10x37.5cm

For control of heating tapes, max. watt – 2000 watt. Power regulator: 0-100%

- Solid state electronics make this variac the perfect instrument for research and especially teaching labs.
- Safety features include sparkless solid state regulation of voltage output to oil baths, heat lamps, heating mantles, or virtually any heater.

TEMPERATURE CONTROLLER/PROGRAMMER

Box-3216, Precise Digital Temperature Controller For Control Of Heating Tapes, Heating Mantles, Hotplates, Ovens , Water Baths, Immersion Heaters, incubators etc.



Front



Back

- Wide range of temperature controls to match most heating applications: mantles, hotplates, heating tapes, small ovens & other resistive heating loads up to 3500 Watt.
- Quick connections for load and temperature sensor.
- Digital dual display for set point and process temperature indication.
- Easy to operate.
- Non-volatile memory retains temp. settings during power interruptions.
- Models are available for use with Type-K (other T/C optional).
- Supplied with Thermocouple Probe.
- Fuzzy modified PID control.
- Auto tune function.
- Soft start ramp and dwell timer.
- Bright dual color display.
- Fast sampling rate 5meas/sec.
- Power 110-250VAC 50/60Hz.
- High accuracy 18 Bit A/D converter.
- Max. temp. 1370°C dec point to 999.9.
- Size: W185xD190xH115mm.
- Weight: 1.4kg.

Available power sockets



ISR

USA

EURO

UK

CHIN



Box-3216

Model	Function	Thermocouple	Temp. range	Power output
Box-3216	Control with ramp to set point & 100 hrs timer	K	-50~1200°C	3500 watt 230V/50Hz
		T	-20~400°C	
Box-2416P4	Programmer with 4 programs of 8 segment	K	-50~1200°C	3500 watt 230V/50Hz
		T	-20~400°C	

OVENS

DFO-Series, 36 Liter, 80 Liter, 150 Liter, 240 Liter Ovens

DFO Series units are primarily used in applications needing rapid drying and sterilization. Totally homogenous temperature distribution and/or rapid dynamic response. This modern range of ovens is available in 4 sizes. DFO Series offers excellent uniformity and stability & are used for many applications as Glassware drying, warming, sterilizing, ageing, curing, softening, annealing, preheating and testing, drying slides. The inner case is constructed from polished stainless steel. All units are provided with wire plated shelves with multi-position settings. All models are with fan assisted air circulation, the chamber ventilation and exhaust vent are easily adjustable. Wide choice of control options is available, PID controller & timer is fitted as standard with dual display of measured value and setpoint.

Options:

- RS-232 / 485 communication model: 3216E
- 4 programs of 16 segments model: 2416P4
- 5 programs of 8 segments model: 3216CP
- 38 mm cable port
- Gas inlet



Specifications:

Model	DFO-36	DFO-80	DFO-150	DFO-240
Temp. range	Room temperature - 250°C			
Temp. constancy	±0.1°C			
Temp. uniformity	±2%			
Temp. control	PID			
Temp. sensor	Thermocouple K			
Heater: Oven	1100W	1500W	1800W	2200W
Inside Material	S.S-430			
Timer	99hr 59min			
Window (mm)	W200xH300			W200xH500
Safety devices	Short circuit breaker, over heat protector, sensor abnormality			
Inside dimensions (mm)	W400xD300xH300	W500xD400xH400	W600xD500xH500	W600xD500xH800
Outside dimensions (mm)	W525xD420xH595	W620xD520xH620	W720xD620xH720	W720xD620xH1020
Capacity (Liters)	36	80	150	240
Shelves	2			3
Weight	34kg	47kg	60kg	76kg

LARGE OVENS



DFO-480

DFO-270/480, Large Force Convection, Single Door

- Ideal for Large Volume Baking Electronic Parts, Drying, Conditioning and Sterilizing
- Inner case is SUS 304 and outside body is powder painting.
- Tempered Safety Glass Window to see inside without door opening
- Install double over temperature protection.
- All models are with fan assisted air circulation, air vent on both side t
- Brake wheels easy to move.



Fan motor



Wheels

Model	DFO-270	DFO-480
Temp. range	Ambient + 5°C~210°C (250°C)	
Temp. Accuracy	±1°C	
Temp. control / Display	PID / LED digital display	
Temp. Sensor	K type	
Heater	4000 W	
Volume	270L	480L
Timer	99 h / 59 min	
Keep Warm	Rock wool fiber	
Shelf (Adjustable)	4	
Power Voltage	220V 50/60Hz 1PH	
Inside dimensions (mm)	W600xD500xH900	W800xD600xH1000
Outside dimensions (mm)	W780xD620xH1520	W980xD720xH1620



DFO-2160

DFO-600/720/1008/2160, Large Force Convection, Double Door

- Ovens are used for many applications as baking, drying, conditioning, sterilizing, electroplate, plastic, chemical industry, printing, hard ware, pharmacy, tea fired, bake industry etc
- Inner case is SUS 304 and outside body is powder painting.
- Tempered Safety Glass Window to see inside without door opening
- Install double over temperature protection.
- All models are with fan assisted air circulation, air vent on both side t
- Brake wheels, easy to move
- Silent fan motor.



Fan motor



Wheels

Model	DFO-600	DFO-720	DFO-1008	DFO-2160
Temp. range	40°C~200°C (250°C)			
Temp. Accuracy	±0.1°C			
Temp. control / Display	PID / LED			
Temp. Sensor	Thermocouple K type			
Keep Warm	Mineral wool/Glass wool			
Safety Device	EGO (Double over temperature protection)			
Volume	600L	720L	1008L	2160L
Timer	99 h / 59 min			
Shelf (Adjustable)	4			
Power Voltage	220V 50/60Hz 1PH		220V 50/60Hz 3PH	
Inside dimensions (mm)	W1000xD600xH1000	W1200xD600xH1000	W1400xD600xH1200	W1800xD1000xH1200
Outside dimensions (mm)	W1250xD750xH1580	W1450xD750xH1580	W1650xD750xH1820	W2000xD1200xH1980

SLIDE HEATERS



HPS-1
Up to 10 slides

HPS-6
Up to 21 slides

HPS-1/6, Slide Heater

Our modern aluminium slide heater is designed for cytology, histology, pathology & other biological applications in industrial & clinical lab environments. Easy slide pickup, Excellent temp. accuracy, Uniformity, Stability.

Application:

- Slide warming
- Slide drying
- In situ hybridization
- Slide incubation
- Histology
- Heictology
- Imuno histochemistry
- Fish.



Options:

Programmable RAMP/SOAK

2 programs of 8 Segments each.

Model	HPS-1	HPS-6
Capacity	Up to 10 slides	Up to 21 slides
Temperature Adjust	Digital front panel	
Temperature Range	RT +5 – 99.9°C (°C/ °F selection)	
Digital Microprocessor	PID controller	
Temperature Stability	±0.1°C	
Accuracy	±0.2°C	
Power Consumption	400 Watt	900 Watt
Electrical Requirements	230V, 50/60Hz	
Dimensions	WxHxDmm	
Weight	1.3Kg	2.4Kg

Available Products Catalogs:



MRC LTD. Laboratory Products
 Offices: 3 Hagavish st. Holon 5881702 Israel
 Tel: 972-3-5595252 Fax: 972-3-5594529
 Website: www.mrclab.com E-mail: mrc@mrclab.com
 Fried Electric
 Factory: 19 Marconi St. Haifa 31250 Israel





GHP-4
250x250mm
hotplate

HP-4
175x175mm
hotplate

HP-1
115x115mm
hotplate

Compact & lightweight hotplate, great to use in limited space. Making possible for processing of delicate materials at low critical temperatures.

HOP Series Aluminium Top Hotplates

Uniform Heating at a Reasonable Price!

This modern range of aluminium hotplates provides superior temperature uniformity and stability is available in 4 sizes.



GHP-4X2
250x500mm
hotplate

Features:

- Chemical resistant top plate, easy to clean.
- Excellent heat conduction distributes the heat evenly and uniformly over the entire heating surface.
- Sensitive "stepless" temperature control is maintained by means of a hydraulic thermostat with minimum overshoot and undershoot Making possible the processing of delicate materials at low critical temperatures.
- Pilot lamp indicates when heat is on.
- Special radiation shields keep apparatus relatively cool during continuous operation.
- Supplied with a 3-wire line cord and sturdy screw type support device at the rear of the base to hold standard rod.

Application:

- Distillations, extractions & digestions
- Heat aqueous reagents
- Semiconductor baking
- Acid/Base digestions - trace metal analysis. etc.
- Sample drying
- General reagent heating
- Heating TLC plates
- Evaporations
- Warning/curing applications - pastes, adhesives, & solder
- Ideal for general lab heating
- Liquid evaporations



E-1
Iron hotplate, up to
450°C, dia. 80mm



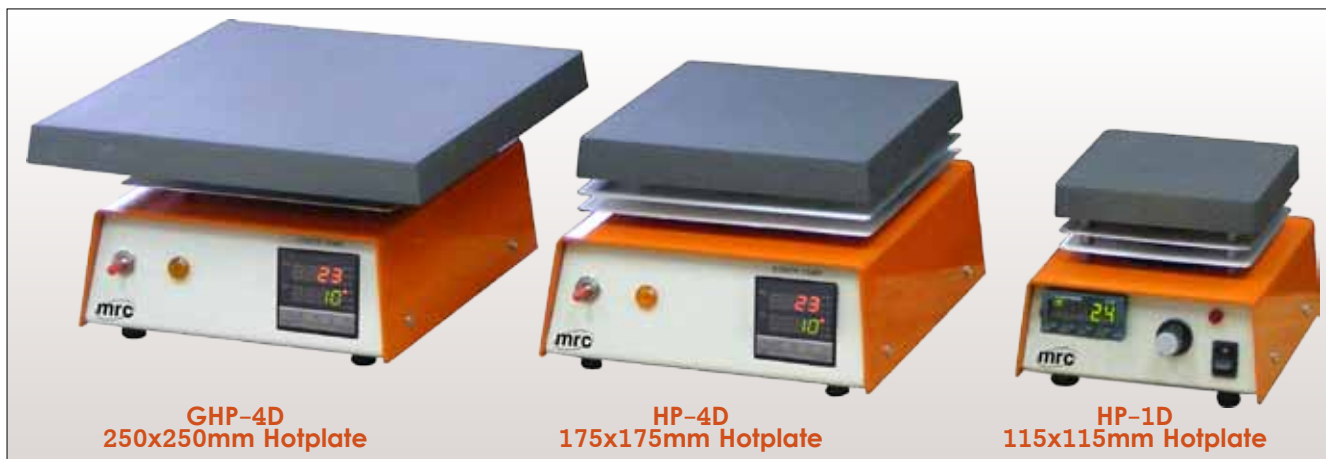
support device at the rear of the base to hold standard rod.

GHP-4
250x250mm
hotplate



SHP-4X2D
250x500mm
Digital Sand Bath

Model	Temperature range	Top plate	Dimensions	Watt	Weight
HP-1	40-300°C (optional 350°C)	115x115mm	W140xH110xD220mm	450W	1.2kg
HP-4	40-300°C (optional 350°C)	175x175mm	W200xH150xD260mm	750W	2.3kg
GHP-4	40-300°C (optional 350°C)	250x250mm	W250xH150xD260mm	1500W	3.3kg
GHP-4X2	40-300°C (optional 350°C)	500x250mm	W500xH150xD250mm	3000W	6.5kg
HP-1X5	40-300°C (optional 350°C)	588x115mm	W600xH150xD145mm	2000W	5kg
E-1	up to 450°C	Diameter 80mm	W120xH120xD180mm	450W	1.1kg



GHP-4D
250x250mm Hotplate

HP-4D
175x175mm Hotplate

HP-1D
115x115mm Hotplate

HP-D Series Digital & Programmable Hotplates, Aluminium Top

Application:

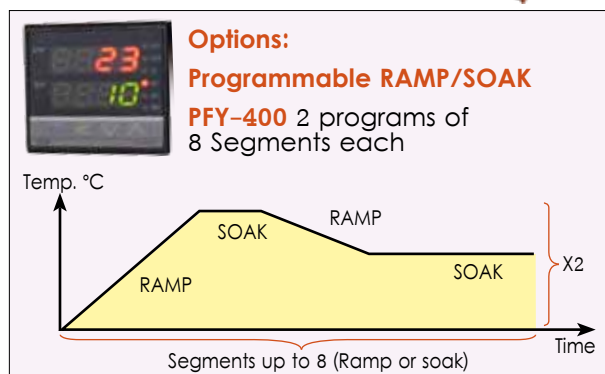
- Distillations, extractions and digestions
- Heat aqueous reagents
- Semiconductor baking
- Acid/Base digestions – trace metal analysis. etc.
- Sample drying
- General reagent heating
- Heating TLC plates
- Evaporations
- Warning/curing applications-pastes, adhesives, & solder
- Viscosity studies
- Reaction optimization
- Solubility studies
- Safety thermostat.

Features:

- Temperature can be displayed in °C or °F.
- Digital timer and ramp to temperature function.
- Digital set-point and read-out of actual temperature.
- PID microprocessor controller provides precise temperature regulation all over the temp. range, include the low temp close to the ambient.
- Temperature may be controlled either at the plate surface by internal sensor, or at the sample by a Thermocouple Immersion probe.
- Safety: in the event of broken sensor, power to the heater is shut-down.
- Temperature range: above ambient to 300°C (optional 400°C).
- Chemical resistant top plate, easy to clean.
- Excellent heat conduction distributes the heat evenly & uniformity over the entire heating surface.
- Pilot lamp indicates when heat is on.
- Special radiation shields keep apparatus relatively cool during continuous operation.
- Support device at the rear of the base.
- Option: External temp. sensor 200mm length, 3.2mm diameter.



HP-1X5D
588x115mm Hotplate



GHP-4X2D
Large surface for large loads, 500x250mm Hotplate



2416P4 Programmer 4 x programs of 16 segments

RS232 Communication This permit a single hotplate to communicate with computer.

RS485 Communication permits multiple hotplates to communicate with a single computer.

Separate Control box You can have your controller separated for wide variety of applications for example for glovebox.

Model	Temp. range	Top plate	Temp. stability	Dimensions	Watt	Weight
HP-1D	40-300°C (optional 400°C)	115x115mm	±1°	W140xH110xD220mm	450W	1.3kg
HP-4D	40-300°C (optional 400°C)	175x175mm	±1°	W200xH150xD260mm	750W	2.4kg
GHP-4D	40-300°C (optional 400°C)	250x250mm	±1°	W250xH150xD260mm	1500W	3.4kg
GHP-4X2D	40-300°C (optional 400°C)	500x250mm	±1°	W500xH150xD250mm	3000W	6.6kg
HP-1X5D	40-300°C (optional 400°C)	588x115mm	±1°	W600xH150xD145mm	2000W	5kg
SHP-4X2D	40-300°C (optional 400°C)	500x250mm	±1°	W500xH200xD250mm	3000W	6.6kg

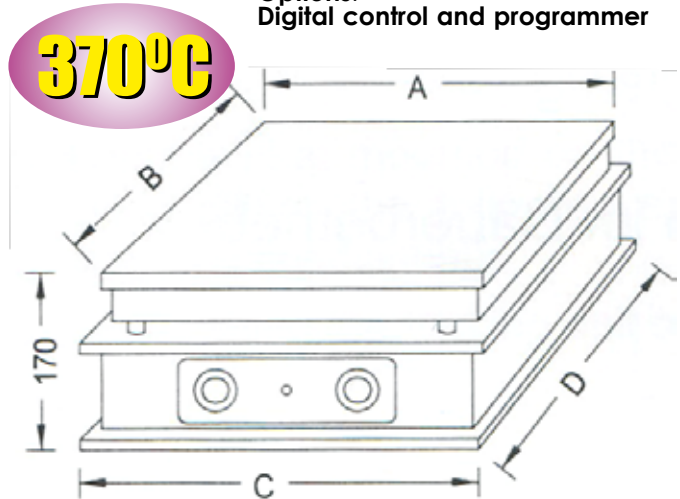


HOP-3030-6116, Hotplate With Wattage Power Control Or Digital PID Control

Electrical hotplates with variable wattage control. Robust construction for continuous performance. Aluminium alloy hotplate. Because of the asymmetrical, long-term heating system (hotplate corners and edges are subjected to more heat) an even temperature is guaranteed over the entire heating surface. Asbestos-free insulation. The housing is constructed from high-grade, stainless steel No. 1.4301, whereby the central section has been additionally sprayed in orange. Four adjustable feet ensure extra stability. Connecting cable approx. 1,7 m. long.



Options:
Digital control and programmer



Hot plates with wattage power control:

Type	Temp. Range	A (mm)	B (mm)	C (mm)	D (mm)	Watt	Volt	Weight
HOP-3030	max. 370°C	300	300	312	312	1800	230	10kg
HOP-3535	max. 370°C	350	350	358	358	2200	230	12kg
HOP-4429	max. 370°C	290	440	308	458	2400	230	13kg
HOP-5035	max. 370°C	350	500	364	514	2850	230	18kg
HOP-5843-230	max. 370°C	430	580	442	592	4000	230	25kg
HOP-5843-400	max. 370°C	430	580	442	592	4000	3x400, N+PE	25kg

Hot plates with wattage power control and thermostatic control:

Type	Temp. Range	A (mm)	B (mm)	C (mm)	D (mm)	Watt	Volt	Weight
HOP-3030C-110	30 - 110°C	300	300	312	312	1000	230	11kg
HOP-3030C-370	100 - 370°C					1800		
HOP-3535C-110	30 - 110°C	350	350	358	358	1150	230	13kg
HOP-3535C-370	100 - 370°C					2200		
HOP-4429C-110	30 - 110°C	290	440	308	458	1650	230	14kg
HOP-4429C-370	100 - 370°C					2400		
HOP-5035C-110	30 - 110°C	350	500	364	514	1800	230	19kg
HOP-5035C-370	100 - 370°C					2850		
HOP-5843C-110	30 - 110°C	430	580	442	592	2000	230	26kg
HOP-5843C-370-230	100 - 370°C					4000	230	
HOP-5843C-370-400	100 - 370°C					4000	3x400, N+PE	
HOP-6116C-110	30 - 110°C	610	160	200	618	1000	230	11kg
HOP-6116C-300	50 - 300°C					2000		

CERA-Series, CERAN® Hot Plate With Thermostatic Temp. Control 50-500°C



CERAN® an unusual glass ceramic material which is highly resistant to breakage and temperature changes, free from distortion, permeable to ultra-violet light and highly acid-resistant.

Construction: The low mass CERAN® plate is electrically heated over its full surface and is bedded into a stainless steel frame which is mounted on an internally insulated stainless steel housing. The temperature control system consists of an

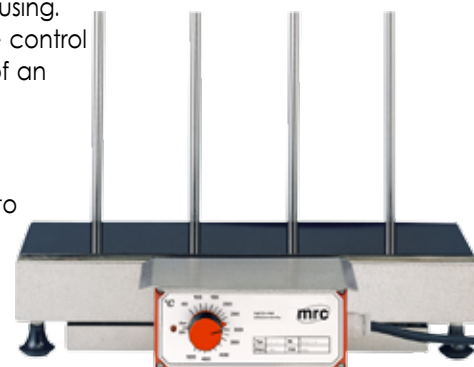


electronic regulator, activated by a NiCr-Ni temperature sensor (adjustable 50 ... 500°C) installed in a Aluminium pressure cast housing. Warm-up time, e. g. 500°C in 8 minutes.

Four feet, which can be individually adjusted to an approx. height of 8 mm to ensure horizontal stability.

Type 4A has 4 supporting rod holders (distance 100mm) In Types SR and EB, the electrical connection between the control housing and the hot plate is protected by a flexible metal hose.

Options: Digital control and programmer



CERA-Series - with built-in control housing, CERA-SR-Series - with separate control housing

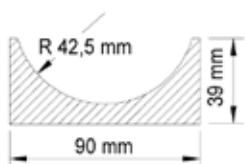
Types	WxHxD(mm)	CERAN® mm	Watt	Volt	Weight
CERA-4314 / CERA-4314SR	440x100x300	430x140	1500	230 V, 50-60 Hz	5.0kg
CERA-2828 / CERA-2828SR	290x100x410	280x280	2000	230 V, 50-60 Hz	5.5kg
CERA-4328 / CERA-4328SR	290x100x560	280x430	3000	230 V, 50-60 Hz	6.5kg
CERA-4343 / CERA-4343SR	440x100x560	430x430	4400	3x400 V, N+PE, 50-60 Hz	9.0kg
CERA-5843 / CERA-5843SR	590x100x560	580x430	5700	3x400 V, N+PE, 50-60 Hz	11.5kg

The conducting wire between control housing and hot plate measures 1.3 m.

Accessories for CERA-4314SR

ST-12 - support rod 12mmØ, 650mm.

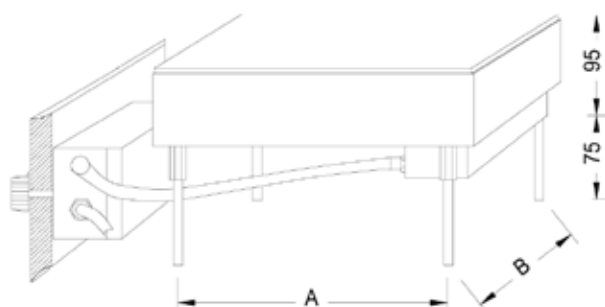
AM-25 - interchangeable top mulde for round bottom flask 250ml.



CERA-EB-Series - as built-in units for bench installation

Types	WxHxD(mm)	CERAN® mm	AxB mm	Watt	Volt	Weight
CERA-2828EB	290x100x290	280x280	240x240	2000	230 V, 50-60 Hz	5.5kg
CERA-4328EB	290x100x440	280x430	240x390	3000	230 V, 50-60 Hz	6.5kg
CERA-4343EB	440x100x440	430x430	390x390	4400	3x400 V, N+PE, 50-60 Hz	9.0kg
CERA-5843EB	590x100x440	580x430	540x390	5700	3x400 V, N+PE, 50-60 Hz	11.5kg

The conducting wire between control housing and hot plate measures 0.65 m.



type = Order-No. other voltage on request.

Further Fabrications

High temperature TITANIUM hot plate up to 600°C - Precision hot plates - Stand hot plates with supporting rod - rapid incinerator - Multi-purpose, extremely deep, heating bath - sand bath - Series heating units - Multipurpose heating equipment - Water- and Oil baths - Development - Special orders. The right to make modification serving further technical development, is reserved.



HOP-2820-TIT

Temp. controller TR 28-3T

This microprocessor controlled temperature regulator is suitable for the high temperature hot plate. After adjustment of the temperature setpoint by the membrane keypad, the PID controller keeps it constant (control deviation 2 K or less).

Programmer PR 5-3T

The microprocessor controlled ramp regulator offers a comprehensive time/temperature regulation for the high temp. hot plate. Pressing the START key activates a program of up to 5 ramps. Max. 5 ramps (consisting of ramp time, constant temp. and time of constant temp.) can be programmed. 3 program sets can be loaded into the non-volatile memory. A programmed lead time enables the activation of the start up to 99 hours in advance.

Every temperature and time parameter can be selected with its own key. Consequently the setting is easy and clear. It is possible to pass over single ramps by setting the according parameter to '0'. Every set value can be controlled during a program.

Back-up by an EEPROM. The device is equipped with a change-over switch to continuous control; buzzer signal at the program.

**HOP-2820-TIT, High temperature Hotplate of TITANIUM up to 600°C, for continuous operation****with PID – Temperature Controller or Programmer.**

High temperature hot plate of TITANIUM up to 600°C
HOP-2820-TIT.

This high temperature hot plate reaches its max. temp. of 600°C within about 20 min. The upper plate consists of TITANIUM, overall dim. 280 x 200 mm. The marked area of constant temperature is 230 x 160 mm. Owing to a special insulation the device can be placed even on surfaces sensitive to heat. Metal sheets all around keep the casing temperature to a minimum.

The insulated snap-lid ensures little loss of heat and short times of warming. Between the closed lid (inner surface Ceran[®]) and the heating plate remain 26 mm, enabling an intensive heating of plain parts at high precise temperatures. The whole casing is made of stainless steel. The temperature regulator is connected by two plugged cables.

HOP-2820-TIT is available either with a temperature controller or with a programmer. The temperature controller keeps the device constant to an adjusted temperature within the whole range.

The programmer allows the control of certain programs including phases of heating up, constant temperature and cooling.

Equipment of PR5-3T and TR 28-3T

2-poled main switch; individual adjustment of proportional range, derivative/integrating factor and cycle time; control range limitation (to avoid the setting of values not useful or harmful to an application); contact maker input, actual value correction, junction bush for high temperature hot plate, wattage power control 1...100%, uninterrupted switching. Both regulators show the actual value constantly. Furthermore the programmer shows the remaining time of a ramp. When the SET key is pressed, the display changes to show the setpoint. On request the devices are available with a temperature limiter to avoid superheating.

Type	HOP-2820-TIT without cover	HOP-2820-TIT-C with cover
Titanium plate size	280 mm x 200 mm	
Constant heating area	230 mm x 160 mm	
Max. temperature	600°C	
Voltage	230 Volt / 50..60 Hz	
Power	2000 Watt	
Spread of temperature	±2K	
Cable length (standard)	1.5m	
Overall dimensions	350 mm x 300 mm	
Height	110 mm	145 mm
Effective height with closed cover	-	26 mm*
Weight	8 kg	10 kg

*Covers for more effective height on inquiry



HOF-604A

HOF-604 Series, Ashing & Burn Off Hotplate Furnace Up To 950°C

For single & Series incineration of solid & liquid substances. The operating temperature of approx. 950°C can be reached within the space of a few minutes. The upper platform has 8 recesses with a diameter of 35 mm which can accommodate porcelain crucibles of up to 50mm diameter for drying, pre-heating & fuming-off. The uninhibited exposure to oxygen speeds up the incineration process. The inclined position of the crucibles in the lower incinerating bed (which has a length of 400 mm) allows excellent observation and access to the contents during operation. Modern design, easy to operate, reliable, space-saving and of very good value.

Model HOF-604: The upper part and the main housing are made of high grade stainless steel, the housing comes with an orange finish (RAL 2002). There is electrical wattage control.

The appliance is fitted with a safety switch which cuts off the mains supply to the heater immediately the service flap is opened. When the flap is closed, power is restored to the element. The ready-to-use apparatus is delivered complete with a 1.8 m cable & Schuko plug.

Model HOF-604A: As HOF-604 but with an additional electronic temperature regulation by means of a performance control.

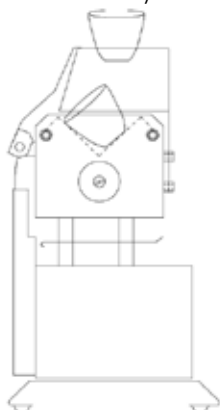
Model HOF-604D: As HOF-604A, but with an additional Eurotherm PID temperature controller up to 999°C, this is controlled by a built-in, K type thermocouple.

The pre-selected temperature is shown on the digital display with a constant ACTUAL temp.

950°C



HOF-604D



Model	HOF-604	HOF-604A	HOF-604D
Control	Power	Power & Thermostat	Digital
Performance	2500 Watt		
Width & Depth	450mm x 180mm		
Height	310mm		
Maximum crucible diameter	50mm		
Maximum crucible height	50mm		
Weight	7.4kg	8.0kg	7.8kg



E-1
Iron hotplate, up to 450°C, dia. 80mm

GHPI-2D

450°C

GHPI-3D

Model	Temperature range	Top plate	Dimensions	Watt	Weight
E-1	up to 450°C	Diameter 80mm	W120xH120xD180mm	450W	1.1kg
GHPI-2D	up to 450°C	220x220mm	W260xH195xD260mm	2000W	10kg
GHPI-3D	up to 450°C	300x300mm	W340xH195xD340mm	3500W	12kg



SH/SGK/SG/SGR Series, Heating Units Hotplate for supporting rod, Plate diameter 85mm and 150mm

Series and supporting rod hot plates

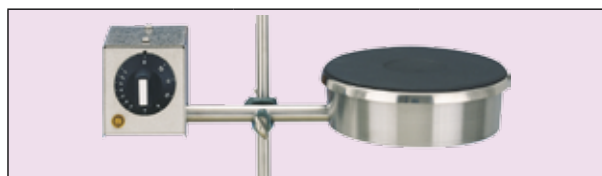
Smoothly finished, cast-iron, hot plate with concave central expansion recess for warp free operation. All housing parts are constructed from stainless steel and each unit has a screw-on fitting for a supporting rod. The appliances have been specifically designed for non-stop use.

Regulation of models SG/SGK/SH

Each unit has a heating output controller that enables a variable adjustment between 10 - 100%.



Regulation of model SGR Each unit has an additional, built-in, electronic relay and an extra low-voltage, 3-pole diode output bushing for an optional contact thermometer. When in use, the regulation via the thermometer takes automatic precedence. Without the thermometer, the operation of the SGR is the same as the SG model.



Type	SH-15	SH-85
plate-Ø (mm)	150	85
Wattage (W)	1000	450
Weight (kg)	1.7	1.0
Length (mm)	340	280
Height (mm)	80	
Depth (mm)	150	110
Voltage	230..240 V, 50-60 Hz	



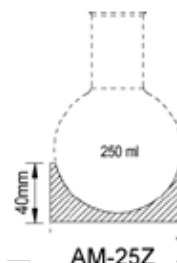
Type	SGK-1	SGK-4	SGK-6
No. of units	1	4	6
Wattage (W)	450	1800	2700
Weight (kg)	1.5	4.8	7.0
Length (mm)	125	485	725
H x D (mm)	145 x 155		
Space between units	120mm		
Voltage	230..240 V, 50-60 Hz		

Plate diameter 85mm



Type without relay	SG-1	SG-2	SG-3	SG-4	SG-5	SG-6
Type with relay	SGR-1	SGR-2	SGR-3	SGR-4	SGR-5	SGR-6
No. of units	1	2	3	4	5	6
Wattage (W)	500	1000	1500	2000	2500	3000
Weight: SG (kg)	2.8	5.2	7.6	10.0	12.4	14.8
Weight: SGR (kg)	2.9	5.4	7.9	10.4	12.9	15.4
Length (mm)	180	355	530	705	880	1055
H x D (mm)	160 x 210					
Space betwin units	175mm					
Voltage	230..240 V, 50-60 Hz					

Accessories	Type	SH-85	SH-15	SGK	SG	SGR
Support rod, 12mmØ, 660mm	ST-12			X	X	X
Holder for contact thermometer	HK-3					X
Cable for contact thermometer	SK-83					X
Sand bath crucible	SA-14		X		X	X
Interchangeable top with recess for 250ml round bottom flask	AM-25Z	X		X		





Model	PHP-4429	PHP-4429/2P
Voltage	230-240V, 50/60Hz	2 x400 V,N+P
Performance	3300 Watt	
Plate size	440mm x 290mm	
Temp. Range	20°C - 450°C	
Constant Temp.	±1 K	
Width and Depth	310mm x 475mm	
Height	205mm	
Weight	26kg	

Accessories:

S-3P	Cable with plug for temp.-fuse, time itch or contact-thermometer
TS-Series	Temperature-fuse (±5°C) 82-128-156-170-182-212-228-254°C

Details and structure of PHP-4429

The hot plate is constructed of solid, low-distortion GG15 casting. Cold housing, also in continuous operation. Material No. 1.4301, from rustproof high grade steel. Centre section is additionally sprayed in orange. Four adjustable feet for extra stability. Study construction, 150 kg max. hot plate load. Ready for connection with 1.5 m. cable.

PHP-4429 / PHP-4429/2P, Digital Precision Hotplate up to 450°C

Temperature Range: 20 - 450°C

PHP-4429 is a hot plate with automatic control for precise temperatures from 20 to 450°C. The required temperature is preset on the digital regulator and remains automatically constant, The actual temperature is continuously displayed with 13mm high numbers. The long-lasting electrical heating unit can be used in three heating stages - 825 - 1650 - 3300 Watt. Each stage can be finely tuned from 10 to 100% by an electronic output control to prevent overheating and any after- heating due to excessive power. The heating stages 825 and 3300 Watt, heat the total area of the plate. The special 1650 Watt stage heats only the right-hand section of the plate. Due to creeping heat, the temperature drops off from the right-hand section to the left-hand plate edge, by approx. 40% (temperature decline).

A low voltage 3-pole socket mounted on the right-hand side of the housing allows the following extras to be connected (however not conditional):

1. Time switch, for switching the heating unit on and off at preset times.
2. Contact Thermometer
3. Temperature fuse cut-out

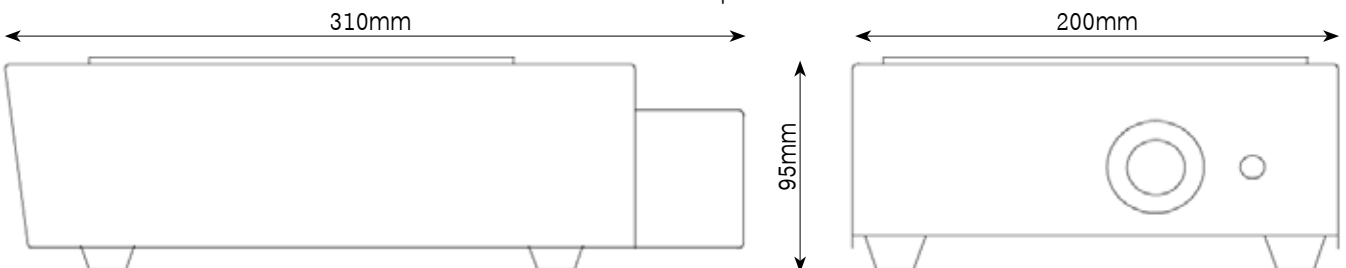
As temperature fuses must have heat contact, a 4mm diameter hole has been bored on the edge of the right-hand plate for their insertion. The heating unit is automatically cut off from the mains supply after the fuse blows and the contact has switched to the off position. The fuse has to be renewed once it has blown.



Type	HOP-1717
voltage	230 - 240 V, 50-60 Hz
performance	1200 Watt
glass ceramic	175 mm x 175 mm
heating surface	145 mmØ
width and depth	200 mm x 310 mm
height	95 mm
Weight	2.8 kg

HOP-1717, High power, rapid, glass ceramic hotplate up to 500°C

The glass ceramic used for the heating surface is manufactured by the Schott company and is in use in millions of households. This glass ceramic is highly resistant to breakage and sudden changes of temp. (a temperature shock of over 700°C can be withstood without damage), it is also distortion and pore-free as well as being permeable to ultra-violet light and resistant against chemicals. Construction: The low-density, glass ceramic hot-plate, electrically heated centrally over an area of 145 mm dia., is mounted on a high-grade, stainless steel housing. The variable temperature control system is regulated by an energy regulator 10..100% for temperatures up to 500°C. The energy regulator is housed in a separate, heat resistant container. Thereby ensuring that the regulator is not influenced by excess heat during non-stop operation. A lighted control lamp shows when the hotplate is switched on. The appliance has a integrated temperature sensor to safeguard against overheating. The ready-to-connect hotplate is delivered complete with a 1.8 m mains cable.





PHP-3535F/6116F, Precision Hot Plates for non-stop operation

The heating surfaces of the hot plates are composed of a good heat conducting Aluminium alloy, and have a smooth anodized finish for easy maintenance. The electrical long-term heating ensures that the temperature remains uniform, even on the corners and edges.

The microprocessor controlled digital regulator allows the operating temperature to be preset in 0.1°C stages up to 99.9°C and in 1.0°C stages for temperatures over 100°C. The preset temperature remains programmed, even when the equipment has been switched off.

Presetting is only possible by using two fingers; this is to prevent any unintentional alterations that could occur by

accidentally touching only one key. The actual temperature is permanently displayed by 14mm high numerals after the keys have been released.

An adjustable self-protection against overheating prevents the hotplate and the substance to be heated from being subjected to dangerously high temperatures.

This protective device is activated when the START button has been depressed. A removable Plexiglass cover prevents any unauthorized adjustments.

All models are equipped with an electronic output regulator that allows the heating output to be adjusted between 10 to 100%, this prevents the hotplate exceeding the predetermined temperature and/or to avoid any after-heating effect. The temperature of all precision hotplates is measured with an integrated, quick-reaction sensor (PT 100).

All models are equipped with a 3-pole diode output bushing (extra-low voltage), to permit the connection of one of the following appliances:

1. Contact Thermometer – to measure the temperature directly from the heated material and to regulate.
2. Time switch – in order to heat or cool the apparatus at preset intervals.

Model PHP-6116F (long shape) is equipped with 5 screw-in sockets for support rods, at intervals of 125 mm.

Special Feature:

Due to the asymmetrical, quick-reaction special heating and thermal sensors as well as output adaptation to the thermal requirements, very precise temperatures with a good uniform heat are obtainable over the whole heating surface.



Accessories:

SK-83	Cable with plug for contact thermometer
ST-12	Support rod, 12 mm, 660 mm long
HK-3	Holder for contact thermometer

Model	PHP-3535F	PHP-6116F
Voltage (Volt)	230-240 V, 50-60 Hz	
Performance (Watt)	2200	2000
Plate size	350 x 350	610 x 160
Temperature Range (°C)	20 - 300	
Constant temperature	± 0.5 K	
Width and Depth	365 x 380	615 x 215
Height (mm)	155	160
Weight (Kg)	14.4	12.2



PHP-Series, Precision Hot Plates non-stop operation

The heating surfaces of the precision hot plates are composed of an efficient heat conducting Aluminium alloy, and have a smooth anodized finish for easy maintenance. The electrical long-term heating ensures that the temperature remains constant, even on the corners and edges. The microprocessor controlled digital regulator allows the operating temperature to be preset in 0.1°C stages up to 99,9°C and in 1.0°C stages for temperatures over 100°C. The preset temperature remains programmed, even when the equipment has been switched off. Presetting is only possible by using two fingers; this is to prevent any unintentional alterations that could

occur by accidentally touching only one key. The actual temperature is permanently displayed by 14mm high numerals after the keys have been released. An adjustable safety device against overheating prevents the hotplate and the substance to be heated, from dangerously high temperatures. A removable Plexiglass cover prevents any unauthorised adjustments. All models have an electronic output control that allows the heating output to be adjusted between 10..100%, this prevents the hotplate exceeding the preset temperature and/or avoids any after-heating. The temperature of all hotplates is measured with a built-in, quick-reaction sensor (PT 100). All models are equipped with a 3-pole diode output bushing (extra-low voltage), to permit the connection of one of the following appliances:

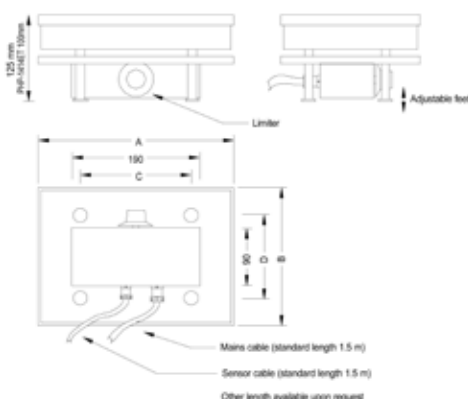
1. Contact Thermometer – to measure the temperature directly from the heated material and to regulate.
2. Time switch – in order to heat or cool the apparatus at preset intervals. Model PZ-6116 (long shape) is equipped with 5 screw-in sockets for support rods, at intervals of 125 mm.

Special Feature: Due to the asymmetrical, quick-reaction special heating and thermal sensors as well as output adaptation to the thermal requirements, very precise temperatures with a good uniform heat are obtainable over the whole heating surface.

* PHP-4358 is also available for 2x400 V,N+PE For an additional charge, all models can be delivered with an anodized black or Teflon coated heating surface

Model	PHP-2028-1	PHP-2028-2	PHP-3535	PHP-6116	PHP-4358
Plate size (mm)	200x280	200x280	350x350	610x160	430x580
Temperature range (°C)	20 – 110	20 – 300			
Division (K)	bis 99,9°C 0,1K, über 100°C 1K				
Constant temp. (±K)	0.1	0.5			
Limiter (°C)	30 – 110	50 – 300			
Performance (Watt)	500	1100	2200	2000	3300
Voltage (Volt)	230 V, 50-60 Hz*				
Overall dimensions (mm)	210x300		365 x 380	620 x 215	445 x 610
Height (mm)	135		155		185
Weight (Kg)	7		14	12	22

Model	PHP-1414ET	PHP-2020ET	PHP-2820-1ET	PHP-2820-2ET	PHP-3535ET	PHP-6116ET	PHP-5843ET
Plate size (mm)	140x140	200x200	280x200	280x200	350x350	610x160	580x430
Weight (Kg)	2.2	4.0	5.4	5.4	10.8	8.9	21.2
Watt	450	800	500	1100	2200	2000	3300
Volt	230	230	230	230	230	230	230*
Max.Temp.	350	350	110	350	350	350	350
Limiter (°C)	-	100 – 350	30 – 110	100 – 350	100 – 350	100 – 350	100 – 350



PHP-SeriesET



Model	PHP-1414ET	PHP-2020ET	PHP-2820-1ET	PHP-2820-2ET	PHP-3535ET	PHP-6116ET	PHP-5843ET
A	140	200	280	280	350	610	580
B	140	200	200	200	350	160	430
C	100	120	160	160	286	478	510
D	100	120	120	120	286	98	437



SOD-3636

370°C

SOD-Series, Sand Baths Up To 370°C

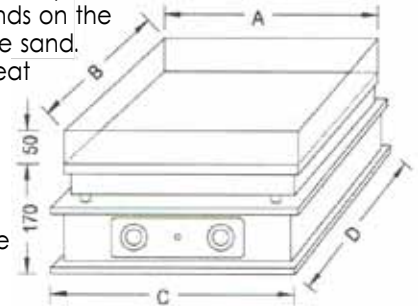
Electrical sand baths with variable temperature control, available with or without a thermostatic regulator. Robust construction for continuous performance. Aluminium alloy hotplate. Because of the asymmetrical, long-term heating system (hotplate corners and edges are subjected to more heat) an even temperature is guaranteed over the entire heating surface. The sand baths consist of an aluminium alloy hotplate with a screwed-on, sealed stainless steel frame with a usable height of 50 mm. The sand has direct contact with the hotplate. The housing is constructed from high-grade, stainless steel No. 1.4301, whereby the central section has been additionally sprayed in orange.

4 adjustable feet ensure extra stability. Connecting cable approx. 1.7m long, 230 Volt/3200 Watt with mains plug.

Sand baths: Change in temperature

The data shown depends on the quality & graining of the sand.

Since sand is a poor heat conductor, warming towards the surface of the sand occurs very slowly. These measurements were taken after a 90 minute heating period.



Sand baths with wattage power control:

Type	Temp.	A (mm)	B (mm)	C (mm)	D (mm)	Watt	Volt	Weight
SOD-3636	Max. 370°C	360	360	358	358	2200	230	13 kg
SOD-5136		360	510	364	514	2850	230	21 kg
SOD-5944-230		440	590	442	592	4000	230	27 kg
SOD-5944-400							3x400, N+PE	

Sand baths with wattage power control and thermostatic control:

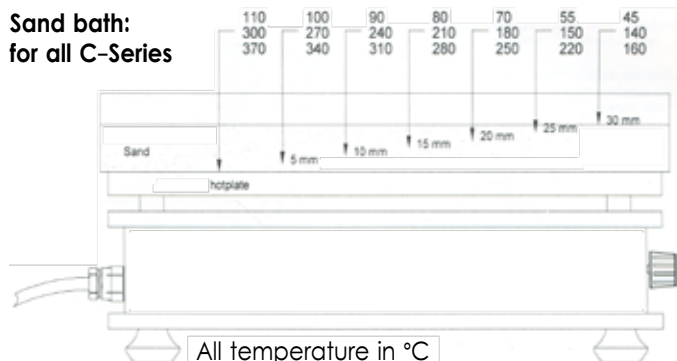
Type	Temp. Range	A (mm)	B (mm)	C (mm)	D (mm)	Watt	Volt	Weight
SOD-3636C-110	30 - 110°C	360	360	358	358	1150	230	14kg
SOD-3636C-300	50 - 300°C					2200		
SOD-3636C-370	100 - 370°C							
SOD-5136C-110	30 - 110°C	360	510	364	514	1800	230	21kg
SOD-5136C-300	50 - 300°C					2850		
SOD-5136C-370	100 - 370°C							
SOD-5944C-110	30 - 110°C	440	590	442	592	2000	230	28kg
SOD-5944C-300-230	50 - 300°C					4000	230	
SOD-5944C-300-400	50 - 300°C						3x400, N+PE	
SOD-5944C-370-230	100 - 370°C						230	
SOD-5944C-370-400	100 - 370°C					3x400, N+PE		

The appliances with a performance up to and including 3300 Watt by 230 Volt are delivered complete with a Schuko plug.

Appliances with a performance exceeding 3300 Watt by 230 Volt are only suitable for use with a permanent connection and, for that- reason, do not come with a plug.

Appliances with 2x400 V, N+PE and 3x400 V, N+PE are delivered with prepared connections but without a plug.

Sand bath: for all C-Series





MH-Series Hotplate Magnetic Stirrers

Powerful Stirring and Uniform Heating!

Quiet direct drive motor/magnet system provides speed from 100 to 1200 RPM.



Compact & lightweight hotplate, great to use in limited space. Making possible the processing of delicate materials at low critical temperatures.

MH-1

MH-1 115x115mm Hotplate Stirrer

GMH-5 For large capacity up to 30Liter, stir viscous solution

Features:

- Chemical resistant top plate, easy to clean.
- Excellent heat conduction distributes the heat evenly & uniformity over the entire heating surface.
- Sensitive "stepless" temperature control is maintained by means of a hydraulic thermostat with minimum overshoot & undershoot Making possible the processing of delicate materials at low critical temperatures.
- Pilot lamp indicates when heat is on.
- Special radiation shields keep apparatus relatively cool during continuous operation.
- Supplied with a 3-wire line cord and sturdy screw type support device at the rear of the base to hold standard rod.
- Uniform, stable heating
- Designed for continuous use, to handle fluids of varying viscosities in up to 30Liter capacity
- Available in 4 models to accommodate most laboratory applications requiring mixing and temperature control.
- Gentle or vigorous stirring

Applications:

- Warming/mixing applications - gels, pastes, & adhesives
- Standard reagent mixing and heating
- Preparing culture media
- Evaporation and distillation procedures
- Titration requiring heating and stirring of solution
- Gentle heating
- Micro scale chemistry
- General lab heating & stirring
- Sample drying
- Media preparation
- General microbiological applications

Specifications:

Model	Temp. range	Speed range	Capacity max.	Top plate	Dimensions	Watt	Weight
MH-1	40-300°C (optional 350°C)	100-1200rpm	8 Liter	115x115mm	W140xH110xD220mm	450W	1.9kg
MH-4	40-300°C (optional 350°C)	100-1200rpm	10 Liter	175x175mm	W200xH150xD260mm	750W	3kg
MH-5	40-300°C (optional 350°C)	100-1400rpm	25 Liter	175x175mm	W200xH150xD260mm	750W	3.4kg
GMH-5	40-300°C (optional 350°C)	100-1400rpm	30 Liter	250x250mm	W250xH150xD260mm	1500W	4.4kg

HOTPLATES STIRRERS 300°C, 400°C Digital & Programmable

MH-D Series Digital Magnetic Stirrers

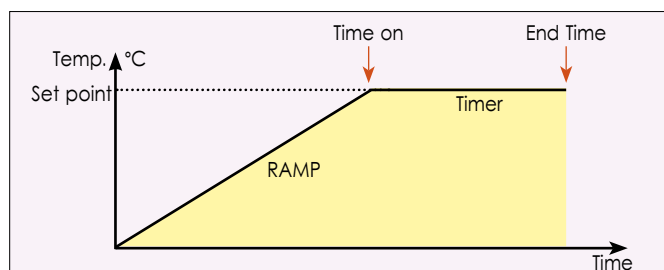
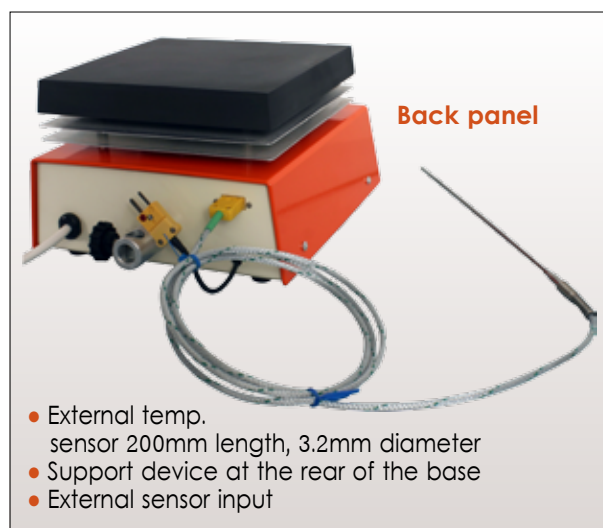
Application:

- Warming/mixing applications – gels, pastes, and adhesives.
- Standard reagent mixing and heating.
- Preparing culture media.
- Evaporation and distillation procedures.
- Titration requiring heating & stirring of solution.
- Gentle heating.
- Micro scale chemistry.
- General lab heating & stirring.
- Sample drying.
- Media preparation.
- General microbiological applications.

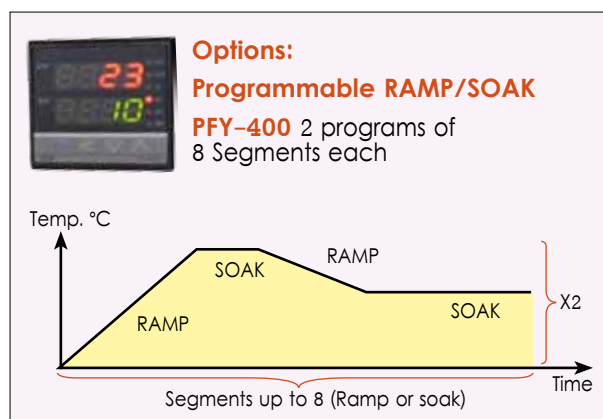


Features:

- Temperature can be displayed in °C or °F.
- Digital timer and ramp to temperature function.



- Digital set-point and read-out of actual temperature.
- PID microprocessor controller provides precise temperature regulation all over the temp. range, include the low temp close to the ambient.
- Temperature may be controlled either at the plate surface by internal sensor, or at the sample by a Thermocouple Immersion probe.
- Safety: in the event of broken sensor, power to the heater is shut-down.
- Temperature range :above ambient to 300°C (optional 400°C).
- Chemical resistant top plate, easy to clean.
- Excellent heat conduction distributes the heat evenly and uniformity over the entire heating surface.
- Pilot lamp indicates when heat is on.
- Special radiation shields keep apparatus relatively cool during continuous operation.
- Designed for continuous use, to handle fluids of varying viscosities in up to 30Liter capacity.
- Available in 3 models to accommodate most laboratory applications requiring mixing and temperature control.
- Gentle or vigorous stirring.



Option: Separate Control box

You can have your controller separated for wide variety of applications for example for glove-box.

2416P4 Programmer 4 x programs of 16 segments

RS232 Communication This permit a single hotplate to communicate with computer.

RS485 Communication permits multiple hotplates to communicate with a single computer.



Specifications:

Model	Temp. range	Speed range	Capacity max.	Top plate	Dimensions	Watt	Weight
MH-4D	40-300°C (optional 400°C)	100-1200rpm	10 Liter	175x175mm	W200xH150xD260mm	750W	3kg
MH-5D	40-300°C (optional 400°C)	100-1400rpm	20 Liter	175x175mm	W250xH150xD260mm	750W	3.1kg
GMH-5D	40-300°C (optional 400°C)	100-1400rpm	30 Liter	250x250mm	W500xH150xD250mm	1500W	3.5kg



MHK-4
175x175mm Ceramic hotplate stirrer



HPK-4
175x175mm Ceramic hotplate

500°C

MHK-1 & MHK-4, Analog Models

Features:

- High impact strength, Acid and alkali resistance
- Heats rapidly up to 500°C in 8 minutes
- Stepless heat control
- Ceramic top remains perfectly flat to ensure maximum heat transfer.
- Reflective white top makes sample viewing easy.
- Not recommended for use with metal vessels.

Applications:

- Models are excellent for microscale chemistry
- General lab heating and stirring
- Sample drying
- Media preparation
- General microbiological applications.

Back Panel

support device at the rear of the base to hold standard rod



HPK-4D & MHK-4D, Digital Models
Measures Temp. on Plate or in Sample

Features:

- Microprocessor closed-loop control
- Digital display of all parameters for easy operation. Temperature can be displayed in °C or °F
- PID microprocessor controller provides precise temperature regulation all over the temp. range, include the low temp close to the ambient.
- Temperature may be controlled either at the plate surface by internal sensor, or at the sample by a Thermocouple Immersion probe.



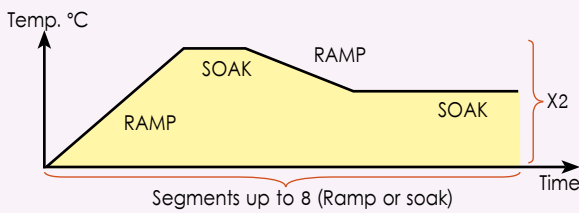
MHK-4D
175x175mm



Options:

Programmable RAMP/SOAK

PFY-400 2 programs of 8 Segments each



2416P4 Programmer 4 x programs of 16 segments

RS232 Communication

This permit a single hotplate to communicate with computer.

RS485 Communication

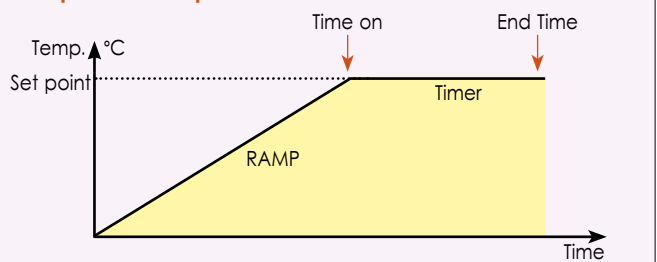
permits multiple hotplates to communicate with a single computer.



Separate Control box

You can have your controller separated for wide variety of applications for example for glove-box.

Ramp rate to setpoint & timer



Description:

- Solid state feedback control monitors & adapts to sudden changes in ambient or sample temperature, preventing boil-overs, ruined samples, and lost time.
- Digital display for quick and easy observation.
- Previous set point is stored in memory & will appear on the display when the unit is switched on.

Model	Temp. range	Top-plate	Temp. control	Magnetic stirrer
HPK-4	up to 500°C	175x175mm	Analog	No
HPK-4D	up to 500°C	175x175mm	Digital	No
MHK-4	up to 500°C	175x175mm	Analog	100~1200rpm
MHK-4D	up to 500°C	175x175mm	Digital	100~1200rpm
HPK-1	up to 500°C	115x115mm	Analog	No
HPK-1D	up to 500°C	115x115mm	Digital	No
MHK-1	up to 500°C	115x115mm	Analog	100~1200rpm



HSD-135, LED Digital Magnetic Hotplate Stirrer

The magnetic stirrers of the HSD-135 is designed for a gentle to intense mixing of low viscous liquids and ideal for the digestion of organic and inorganic substances. Important aspects such as safety, convenience and cost savings have been considerably taken into account during the development of the MRC stirrers. This is reflected in various unique product advantages of our lab hot plates. The ceramic coated hot plates allow for immediate heat transfer resulting in quick heat up times and chemically resistant surface.

- LED-Display for accurate regulation of speed and temperature
- digital controlled speed and temperature
- Indicator for hot surface, even when the stirrer is shut-off
- connector for PT-1000
- integrated temperature control function
- compact construction, sealed housing (IP42)



HS-135, BlueSpin Classic Magnetic Hotplate Stirrer

- Stainless steel and ceramic coated hotplates are optional
- Separated safety circuit, automatically stop heating when temperature over 350°C
- Motor with electronic speed control, constant speed even during changes in load
- Variable speed of motor
- High magnetic adhesion, prevent the stirrer bar escape
- Enclosed assembly with protection class IP42 and DC brushless motor guarantees long service.

HSCD-7, BlueSpin LCD Digital 7 Inch Square Magnetic Hotplate Stirrer

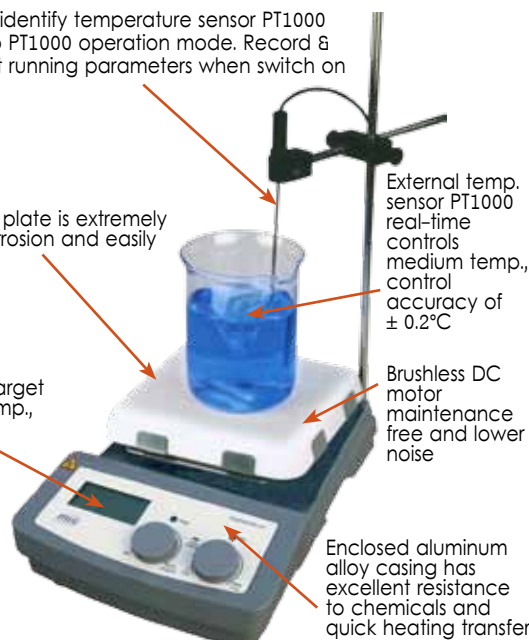
7 inch square hotplate magnetic stirrers are widely used in chemical synthesis, physical and chemical analysis, pharmaceuticals and other fields. PID temperature technology precise controls heating process, rapidly reaches target temperature and enhances control accuracy, heating temperature up to 550°C. Our 7 inch square magnetic stirrers have glass ceramic plate extremely resistant to corrosion and easy to clean. The heating models are suitable for external temperature sensor PT1000, display and control actual medium temperature.



Automatically identify temperature sensor PT1000 and transfer to PT1000 operation mode. Record & display the last running parameters when switch on

Glass ceramic plate is extremely resistant to corrosion and easily clean

LCD displays target and actual temp., as well as set speed and actual speed can be displayed



Specifications:

Model	HSCD-7	HS-135	HSD-135	MUSH-10
Dimension of work plate (mm)	184 x 184	Ø135	Ø135	180 x 450
Work plate material	Glass ceramic	Stainless steel	ceramic coated	Stainless steel with silicone Film
Motor type	DC brushless motor	DC brushless motor	DC motor	DC motor
Motor rating input (W)	18	18	5	12
Motor rating output (W)	10	10	3	4
Power (W)	1050	530	515	490
Voltage (VAC)	100-120/200-240	200-240	200-240	200-240
Frequency (Hz)	50/60	50/60	50/60	50/60
Stirring positions	1	1	1	10
Max. stirring quantity (H ₂ O), L	20	20	3	0.4 (each stirring position)
Max. magnetic bar(L x Ø) (mm)	80	80	50	40
Speed range (rpm)	100-1500	0-1500	100-1500	0-1100
Speed display	LCD	Scale	LED	Scale
Speed display resolution (rpm)	±1	-	±10	-
Heating output (W)	1000	500	500	470
Heating temperature range (°C)	RT-550, increment 1	RT-340	RT-280, increment 1	RT-120
Control accuracy of work plate (°C)	±1(<100°C) ±1%(>100°C)	-	±1(<100°C) ±1%(>100°C)	-
Safety temperature (°C)	580	350	320	140
Temperature display	LCD	Scale	LED	Scale
Temperature display accuracy (°C)	±0.1	-	±1	-
External temperature sensor	PT1000	N/A	PT1000	N/A
Control accuracy with external temperature sensor PT1000 (±°C)	±0.2	-	±0.5	-
Heating warning (°C)	50°C	N/A	50°C	N/A
Remote control (RS232 interface)	Yes	N/A	N/A	N/A
Protection class according to DIN EN60529	IP21	IP21	IP42	IP42
Dimension (W x D x H) mm	215 x 360 x 112	160 x 280 x 85	150 x 260 x 80	182 x 552 x 65
Weight (kg)	5.3	2.8	1.4	3.2
Permissible ambient temp. (°C)	5-40	5-40	5-40	5-40
Permissible relative humidity	80	80%	80%	80%



MUSH-10, BlueSpin 10-Channel Classic Magnetic Hotplate Stirrer

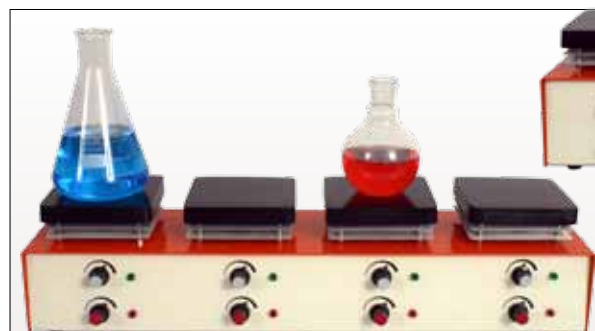
- Heating temperature up to 120°C
- High-performance multi-position magnetic stirrer with uniform temperature distribution
- Individually controlled stirring for consistency with various samples
- Electronic speed control motor provides constant speed
- DC brushless motor maintenance free and quiet running
- Stainless steel plate with silicone films, anti-slip and anti-corrosion.

120°C

H HOTPLATES STIRRERS 300°C, 350°C Multi Position

Multi-Position Hotplate Stirrers, 2,3,4 Or 6 Places

- Aluminium Top Plate 115x115mm
- Independent Heating & Stirring Control
- up to 300°C (optional 350°C)/1600rpm



MH-1/4, 4 position hotplate stirrer



MH-1/3
3 position
hotplate stirrer



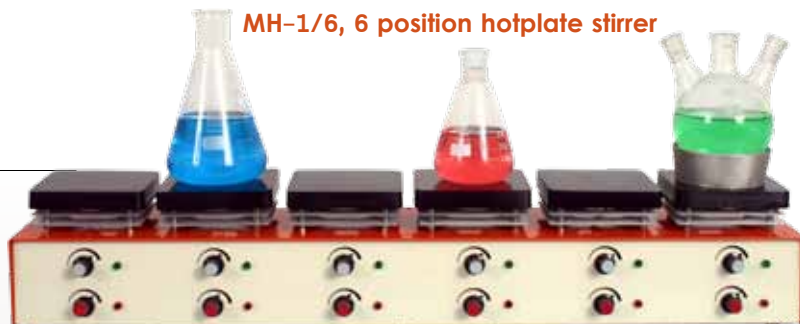
MH-1/2
2 position
hotplate stirrer



MH-1/2x2, 4 position hotplate stirrer



MH-1/3x2, 6 position hotplate stirrer



MH-1/6, 6 position hotplate stirrer

Excellent for Multi-use & a Wide Various Sample Testing • Systemized 2,3,4 and 6 Hotplate-Stirrer • Independent Heating and Stirring Control • Maximum Temperature of 300°C (optional 350°C) • Aluminium tops heat up quickly and uniformly. Great for low temp. applications • Units are built from durable cast aluminium cases & painted with chemically resistant paint.

Model: MH-1/6, 6 Positions

- Multi position hotplate stirrer with six positions.
- Six individually controlled stirring and heating positions.
- Each position can be used to stir only, heat only or heat and stir at the same time.
- Ideal for a narrow bench-top or for applications needing support rack system.
- The top plates are chemical resistant and heat up quickly.
- Stirrers are equipped with strong magnets and high torque motors.

up to 8Liter of water for each position.

Temperature range: Up to 300°C (optional 350°C)

Speed control: Up to 1600RPM

Dimensions: Top plate 11.5x11.5cm,
Overall W81xH14.5xD22cm
(D includes support rod clamp)

Power: 230V (or 115V), 50/60Hz, 2400W-6x400W

Net weight: 12Kg.

Model: MH-1/4, 4 Positions

Multi-position hotplate stirrer with four positions (in one row), Same as model MH-1/6, except dimensions which are: 60.5x14.5x22cm, weight 8 kg, power 1600 watt-4x400 watt.

Model MH-1/3, 3 positions, 1200watt

Model MH-1/2, 2 positions, 800watt

Model: MH-1/2x2

- Multi position hotplate stirrer with four positions (in 2 rows 2+2).
- 4 individually stirring and heating positions.
- 4 chemical resistant top-plates, 11.5x11.5cm.
- The top plates are chemical resistant & heat up quickly.
- Stirrers are equipped with strong magnets and high torque motors.

Temperature range: Up to 300°C (optional 350°C)

Speed control: Up to 1600RPM

Dimensions: Top plate 11.5x11.5cm
Overall W30xH14.5xD31cm
(D includes support rod clamp)
Placed in two rows 2+2

Power: 230V (or 115V), 50/60Hz, 1600W-4x400W

Net weight: 8Kg.

Model: MH-1/3x2

Multi-position hotplate stirrer with six positions (in 2 rows 3+3) Same as model MH-1, except dimensions which are: 45x14.5x31cm, weight 12 kg, power 2400 watt-6x400 watt.

- 6 individually stirring and heating positions.
- 6 chemical resistant top-plates, 11.5x11.5cm.
- The top plates are chemical resistant and heat quickly.
- Stirrers are equipped with strong magnets and high torque motors.



Ceramic Hotplate Stirrers Multi-Position, 2,3,4 Or 6 Places, 115x115mm

Heat to 500°C on plate surface in minutes • Stir from up to 1600 rpm on each stirring position with individual controls
 • Plate size for all units is 115x115 or 175x175mm • Solid ceramic heater surface for excellent chemical resistance



Model: MHK-1/6, 6 Positions

- Multi position hotplate stirrer with six positions.
- Six individually controlled stirring and heating positions.
- Each position can be used to stir only, heat only or heat and stir at the same time.
- Ideal for a narrow bench-top or for applications needing support rack system.
- The top plates are chemical resistant and heat quickly.
- Stirrers are equipped with strong magnets & high torque motors, up to 8Liter of water.



Temperature range: Up to 500°C

Speed control: Up to 1600RPM

Dimensions: Top plate 11.5x11.5cm,
Overall W81xH14.5xD22cm
(D includes support rod clamp)

Power: 230V (or 115V), 50/60Hz, 2400Watt-6x400W

Net weight: 12Kg

Model: MHK-1/4, 4 Positions

Multi-position hotplate stirrer with four positions (in one row), Same as model MHK-1/6, except dimensions which are: 60.5x14.5x22cm, weight 8 kg, power 1600 watt-4x400 watt.

Model: MHK-1/3 3 positions, power 1200watt

Model: MHK-1/2 2 positions, power 800watt

Model: MHK-1/2x3

Multi position hotplate stirrer with six positions (in 2 rows 3+3).

Temperature range: Up to 500°C

Speed control: Up to 1600RPM

Dimensions: Top plate 11.5x11.5cm
Overall W45xH14.5xD31cm
(D includes support rod clamp)
Placed in two rows 3+3

Power: 230V (or 115V), 50/60Hz, 2400W-6x400W

Net weight: 12Kg

Model: MHK-1/2x2

Multi-position hotplate stirrer with 4 positions (in 2 rows 2+2) Same as model MHK-1/2x2, except dimensions which are: 30x14.5x31cm, weight 8 kg, power 1600 watt-4x400 watt.

Model: MHK-4/3 3 positions, 175x175mm plate, 3x1100watt=3300watt

Model: MHK-4/2 2 positions, 175x175mm plate, 2x1100watt=2200watt.

