# Heidolph Sterilization & Life Science Solutions









### PREMIUM EQUIPMENT | SOLUTION SUPPORT | INSTALLATION & TRAINING

Heidolph North America's goal is to give our customers the ability to focus on their research. Accomplishing this is done largely in part by providing best in class service and support for solution oriented equipment.

Heidolph's product lineup includes a full range of chemistry and biology tools designed to increase lab productivity, including but not limited to overhead stirrers, magnetic stirring hotplates and shakers. Quality without compromise is Heidolph's commitment to you. All Heidolph equipment is designed and made in Germany, and carries an average 10 year lifespan; making it a worthwhile investment.

For support, feel free to reach out to your local Regional Specialist. Our seasoned professionals will help get you the correct products based on your application, budget, and timeline.

We are available to you 24/7.



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# AUTOCLAVES

# STERILIZATION UNITS

Now more than ever, it is critical to sterilize your laboratory's equipment, materials and hazardous waste. That's what the Heidolph Tuttnauer Autoclave series is all about.

Our benchtop sterilizers provide a fast, safe, dependable and convenient means of sterilizing liquids, media, instruments, glassware, clothing and waste. The line includes a wide range of models from our manually controlled analog models to our electronically controlled models with built-in printers for GLP-compliant documentation.

### ﷺ VIRUS DEFENDER

# LAB LINE "EL" BENCHTOP AUTOCLAVES

Designed to autoclave everything in your lab, including liquids.

- No water utility connections needed, just plug in and add water
- Two integrated temperature probes for complete sterilization of liquids
- Four validated cycles (glass, plastic, liquid A and liquid B-waste)
- Stores up to 200 past cycles you can open on your PC
- Create up to 16 custom cycles
- Trays Included
- Optional Biohazard filter (BH) prevents contaminated air from exhausting into the lab





Options that are available on all "EL" models include: Warming (95° to 104°C), Isothermal (80° to 94°C), F<sub>0</sub>, 21 CFR with R.PC.R software, Biohazard filter and Over Pressure Cycle to ensure sealed bags and containers do not break during the sterilization cycle.

	2840ELP	3850ELP	3870ELP	5075ELP	
Chamber Volume (L)	28	65	85	160	
Max Available Height (in)	9"	12.1"	12.1"	17"	
Chamber Dimension (Øxd)	11" x 18"	15" x 19.7"	15" x 27.2"	19.7" x 29.5"	
External Dimensions (WxHxD)	20.9" x 17.3" x 24.8"	28.3" x 21.3" 30.1"	28.3" x 21.3" x 37"	33.9" x 29.1" x 44"	
Power	230V, 1 phase (60 Hz)	230V, 1 phase (60 Hz) NEMA 6-15	230V, 3 phase (60 Hz) (C) NEMA L15-30	230V, 3 phase (60 Hz) NEMA L15-30	
Utilities		No plum	bing required		
P/N	023210671	023210681	023210672	023210675	
Autoclave Stand (PN 023212609)	NA	Free with Autoclave	Free with Autoclave	NA	
Table with SS Top & Castors	023212601	023212601	023212601	NA	
Table - SS Top (36" x 48") Castors & Lower Shelf	NA	023212600	023212600	023212600	

### Erlenmeyer Flask (ml) Loading Capacity

### Schott-Duran Flasks (ml) Loading Capacity

Model	250	500	1000	2000	3000	5000	Model	250	500	1000	2000	3000	5000
2840	1 x 9	1 x 4	3	0	0	0	2840	1 x 12	1 x 9	1 x 5	0	-	0
3850	1 x 17	1 x 11	1 x 6	1 x 3	0	0	3850	1 x 27	1 x 16	1 x 11	1 x 6	-	0
3870	1 x 23	1 x 17	1 x 10	1 x 5	0	0	3870	1 x 36	1 x 23	1 x 18	1 x 9	-	0
5075	1 x 50 1 x 18	1 x 18 1 x 18	1 x 15	1 x 7	1 x 4	1 x 3	5075	1 x 55 1 x 39	1 x 32 1 x 27	1 x 20	1 x 10		1 x 5

# LAB LINE VERTICAL AUTOCLAVES



Designed to autoclave everything in your lab, including liquids.

- No utility connections needed (models 2840 ELV-WR and 3870ELV-WR) just plug in and add water
- Two integrated temp. probes to ensure the liquid is completely sterilized
- Four validated cycles (glass, plastic, liquid A and liquid B-waste) and two liquid cooling cycles included with 5075ELVC
- Stores up to 200 past cycles you can open on your PC
- Create up to 16 custom cycles
- Two baskets included
- Optional biohazard filter (BH) prevents contaminated air from exhausting into the lab

Options that are available on all "EL" models include: Warming (95° to 104°C), Isothermal (80° to 94°C), F<sub>0</sub>, 21 CFR with R.PC.R software, Biohazard filter and Over Pressure Cycle to ensure sealed bags and containers do not break during the sterilization cycle.

	2840ELV Mobile		3870ELV Mobile		5075ELVC	
Chamber Volume (L)	28	85		160		
Max Available Height (in)	15.5"	25"		27"		
Chamber Dimensions (Øxd)	11" x 18"		15" x 27.2"		19.7" x 29.5"	
External Dimensions (WxHxD)	21.3" x 38.6" x 17.3"		28.7" x 39.4" x 21.3"		34.3" x 42.9" x 30.3"	
Power	230V, 1 phase (60 Hz) NEMA 6-15	$\odot$	230V, 3 phase (60 Hz) NEMA L15-30		230V, 3 phase (60 Hz) NEMA L15-30	
Utilities		No plumb			Treated Water, Tap Water, Compressed Air and Floor Sink	
P/N	023210744	023210745 023210990		023210990		
Quiet Air Compressor for models v	vith cooling				023250023	



### Erlenmeyer Flask (ml) Loading Capacity

	250	500	1000	2000	3000	5000
2840	2 x 5	2 x 3	1	1	1	1
3870	3 x 12	3 x 8	2 x 5	2 x 2	2 x 1	1
5075	3 x 21	3 x 14	3 x 8	2 x 5	2 x 4	1 x 2

### Schott-Duran Flasks (ml) Loading Capacity

	250	500	1000	2000	3000	5000
2840	2 x 8	2 x 3	1	1	1	1
3870	3 x 19	3 x 12	2 x 8	2 x 2	2 x 1	1
5075	3 x 21	3 x 14	3 x 8	2 x 5	2 x 4	1 x 2

## 🗱 VIRUS DEFENDER

# MODEL 3870HSG - WS

### **Independent from Utilities**

- Plug & Play with internal reservoirs No need to connect the autoclave to the building utilities for distilled water, tap water and drain
- Pre & Post Vacuum for faster more efficient air removal (tubing, glassware, pouches, wrapped tools and garments)
- Built-in steam generator and vacuum pump for complete drying
- Water Saving System Use only 5 liters of water a day
- Free standing with built-in swivel wheels for mobility
- Optional Biohazard filter (BH) prevents contaminated air from exhausting into the lab





Options that are available on all "HSG" models include: Warming (95° to 104°), Isothermal (80° to 94°), F<sub>0</sub>, 21 CFR with R.PC.R software, Biohazard filter and Over Pressure Cycle to ensure sealed bags and containers do not break during the sterilization cycle.



Vacuum Pump

the water reservoir

Hot water is recycled back to

### Water Reservoir

В

Water from the reservoir enters the Cooling Radator

### Cooling Radiator

Radiator cools the water which then enters the vacuum pump

# UTILITY CONNECTION FEATURES

### **Dependent on Utilities**

The HSG can be operated as a stationary sterilizer connected to building utilities for distilled water, tap water, drain and electricity.

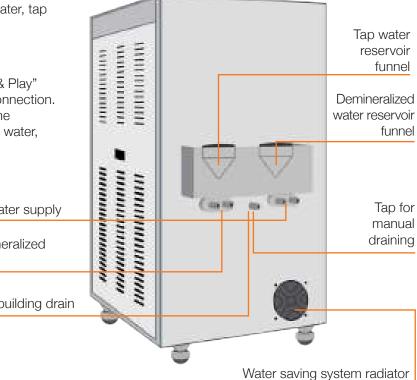
### **Independent of Utilities**

The HSG-WS comes standard with "Plug & Play" option to operate with an electric power connection. In this mode there is no need to connect the autoclave to the building utilities for distilled water, tap water and drain.

Connection to tap water supply

Connection to demineralized water supply

Drain connection to building drain



### 🌼 VIRUS DEFENDER

# LAB LINE "ELC-PV-G" FREE STANDING AUTOCLAVES

Lab Line Autoclaves with Cooling Coils "C", Vacuum Pump "PV" and an integrated steam generator "G"

- Steam generator for heat on demand and quicker heat up times.
- Pre & Post Vacuum for faster, more efficient air removal (tubing, glassware, pouches, wrapped tools or garments)
- Cooling Coils decreases cool down time by 75%
- Steam generator with post vacuum for complete drying
- Optional Biohazard filter (BH) prevents contaminated air from exhausting into the lab

Options that are available on all "EL" models include: Warming (95° to 104°C), Isothermal (80° to 94°C), Fo, 21 CFR with R.PC.R software, Biohazard filter and Over Pressure Cycle to ensure sealed bags and containers do not break during the sterilization cycle.



	2840ELC-PVG-P Benchtop	3870ELC-PVG-P	5075ELC-PVG-P		
Chamber Volume (L)	28	85	160		
Max Available Height (in)	9"	12"	17"		
Chamber Dimension (Øxd)	11" x 18"	15" x 27.2"	19.7" x 29.5"		
External Dimension (WxHxD)	20.9"x 17.3" x 29.9"	28.7" x 53.8" x 46.0"	34.3" x 62.1" x46.3"		
Power	230V, 1 phase (60 Hz) NEMA 6-15	230V, 3 phase (60 Hz) NEMA L15-30	230V, 3 phase (60 Hz) NEMA L15-30		
Utilities	Tre	ated Water, Tap Water, Compressed Air	and Floor Sink		
P/N	023210683	023210678	023260002		
Quiet Air Compressor	023250023	023250023	023250023		

### Erlenmeyer Flask (ml) Loading Capacity

### 500 1000 2000 3000 250 5000 2840 1 x 9 1 x 4 3 0 0 0 3870 1 x 23 0 0 1 x 17 1 x 10 1 x 5 1 x 50 1 x 18 5075 1 x 15 $1 \times 7$ 1 x 4 $1 \times 3$ 1 x 18 1 x 18

### Schott-Duran Flasks (ml) Loading Capacity

	250	500	1000	2000	3000	5000
2840	1 x 12	1 x 9	1 x 5	0	_	0
3870	1 x 36	1 x 23	1 x 18	1 x 9		0
5075	1 x 55 1 x 39	1 x 32 1 x 27	1 x 20	1 x 10	-	1 x 5

# LARGER CAPACITY AUTOCLAVES

- Sizes available are 120L to 540L
- The standard 5075HSG, 4472, and 5596 models are listed on the following page
- Optional Features include:
  - Electric vacuum pump
  - Recessing the autoclave through a wall opening
  - Double Door (Pass-Through) models
  - RO Water treatment systems
  - Loading Cart & Transfer Carriage
  - Clean Steam or Special Applications
- To get started and create the autoclave that meets your needs, contact your Regional Sterilization Specialist or call (224)265-9600 x 115, or email: <u>AsktheExpert@heidolph.com</u>





### Service

Installation & Training	Quoted with Autoclave
Yearly PM Service	Quoted with Autoclave
IQ/OQ Sevice - Large Autoclaves	080000852
IQ/OQ/PQ Service - Large Autoclaves	080000853

	5075 HSG	4472 ECP-V	5596 ECP-V	5596 ECP	66 Series
Chamber Volume (L)	160	120	250	250	430 or 540
Internal Chamber Dimension (in)	19.5" x 29.5"	16" x 16" x 28"	20" x 20" x 38"	20" x 20" x 38"	66C - 26" x 26" x 39" 66D - 26" x 26" x 49"
Door Configuration	Single Door, Manual Hinged (Swing Out)	Single Door, Automatic Vertical Sliding	Single Door, Automatic Vertical Sliding	Single Door, Manual Hinged (Swing Out)	Single Door, Automatic Vertical
Steam Supply *Customer to provide appropria- te water quality or purchase optional Reverse Osmosis Water Treament System PN 019200004	Generator with	Carbon Steel Steam Automatic Blow Down Reguired, 208V or 480V)	Steam Generator with	arbon Steel Electric Automatic Blow Down quired, 208V or 480V)	36 KW Integral Carbon Steel Electric Steam Ge nerator with Automatic Blow Down (3-phrase Power Required, 208V or 480V)
Mounting		Free Standing with S	tainless Steel Cabinet		Free Standing with Stainless Steel Cabinet or Rescessed
Controls	BacSoft Microproces- sor with Color Screen & Touch Pad	k	BacSoft Microprocesser	with 7" Color Touch Scree	1
Printer			Alphanumeric, Thermal		
USB Port			Included		
Ethernet Connection			Included		
Cycles		Gravity, Liquids in Ur	nsealed/Vented Containers,	Pre and Post Vacuum	
Test Cycles		Vac	cuum Leak Test, Bowie Dick	Test	
Piping			Stainless Steel Threaded		
Components			Brass & Copper		
Valves	Electric Solenoid		Air Oj	perated	
Air Source	Not Required		Air Compressor Included		House Air, 90 PSIG min 3.5 SCFM or a compres sor can be included
Vacuum Source	Vacuum Pump		Water Ejector		Water Ejector or Optionlal Vacuum Pump
Condensate Cooler		E	Effluent cooled to below 140	)°F	
Chamber			316 L Stainless Steel		
Jacket	Copper Coil		304L Sta	inless Steel	
Loading Equipment			Rack & Two Shelves		
Parts & Labor Warranty		1 Year (Exc	ludes Expendable & Consu	mable Items)	
Chamber Warranty	10 Year		15	Year	
Freight, Installation, & Training		Incli	uded		Not Included
Installation Includes	cessary, Transporting to Hook Up to Building Ut Applicable, Start Up & 5:00 PM, Monday throu	Uncrating (Removal or Crafti o Final Install Site (Free and C llity Connections (Within 3') ir Customer Training. Non-Unic Igh Friday, excluding holidays pporting equipment size and	Clear Path Must be Provided Including Installation of Seisr on Labor, Based on standard s. If installed above ground I	i), Set-in-Place, Leveling, nic Tie-Down Kits were d work hours, 8:00 AM to	Sumbit Required Checklist
Installation Excludes	Specialized Rig	ging, Wall Penetrations, Pern	nits, Inspections, Building U	tility Modifications	Submit Required Checklist
PN	019250756	019244728	019255968	019255960	Submit Required Checklist

**Download Installation Checklist** 

# ELECTRONIC BENCHTOP AUTOCLAVES

Designed to autoclave wrapped, unwrapped, glass and tools. Not suitable for liquids (see liquid autoclaves on pages 8 - 12).

- Sterilization time up to 99 minutes
- Temperature selection from 105° to 137°C (221° to 279°F)
- Includes trays
- EAP Models allow closed door drying
- In-line particle filter to protect valves
- Electronic pressure and temperature sensors
- Low Water Alarm sounds when reservoir needs to be refilled.



- Standby Heating keeps chamber warm for quicker cycles
- Built In Printer Provides a printed summary at the end of each cycle, documenting temperature, elapsed sterilization and drying time, selected cycle number, real time and date, as well as any errors or interruptions that may ocurr during the cycle.

	2340EP	2540EAP
Chamber Volume (L)	19	23
Max Available Height (in)	6.75"	8.3"
Chamber Dimension (ØxD)	9" x 18"	10" x 18"
External Dimension (WxHxD)	20" x 15" x 20"	20" x 15" x 20"
Power	120V	120V
Utilities		No Plumbing Required
P/N	023210215	023210380

	3545EP	3850EP	3870EAP
Chamber Volume (L)	34.4	65	85
Max Available Height (in)	10.1"	12.1"	12.1"
Chamber Dimension (ØxD)	12.2" x 18.5"	15" x 20"	15" x 27"
External Dimension (WxHxD)	23.5" x 18" x 21.5"	26" x 21" x 27"	26" x 21" x 34"
Power		230V, 1 phase (60 Hz) NEMA 6-15	•
Utilities		No Plumbing Required	
P/N	023210690	023210495	023210673
Autoclave Stand (PN 023212609)	NA	Free with Autoclave	Free with Autoclave
Table with SS top (30" x 36") & Castors	023212601	023212601	023212601

# MANUAL ANALOG BENCHTOP AUTOCLAVES

Designed to autoclave glass, wrapped, and uwrapped tools. Not suitable for liquids (see liquid autoclaves on pages 8 to 12).

- 60 minute cycle timer
- Temperature selection from 100° to 134°C (212° to 273°F)
- Combination pressure and temperature gauge
- Includes trays



	1730M	2340M	2540M	3870M
Chamber Volume (L)	7.5	19	23	85
Max Available Height (in)	5.25"	6.75"	8.3"	12.1"
Chamber Dimension (ØxD)	7" x 12"	9" x 18"	10" x 18"	15" x 27"
External Dimension (WxHxD)	17" x 12.5" x 16"	20" x 15" x 20"	20" x 15" x 20"	26" x 21" x 34"
Power	120V	120V	120V	230V, 1 phase (60 Hz) NEMA 6-15
Utilities		No	Plumbing Required	
P/N	023210002	023210100	023210304	023210550
Autoclave Stand (PN 023212609)				Free with Autoclave
Table with SS top (30" x 36") & Castors	023212601	023212601	023212601	023212601

### **2 YEAR WARRANTY**

# ACCESSORIES

Printer Paper				
Chamber Brite				
Mobile Lifting Device for 5075ELVC & 3870	ELV-WR		023250016	
Biohazard Air Filtration System - Factory Ins	talled		023250011	
5075ELVC Large SS Wire Basket	023211790	Model 3850 SS Tray Large with no holes	023213583	
5075ELVC Small SS Wire Basket	023211795	Model 3850 SS Tray Small with holes	023213591	
2840ELV -High SS Wire Basket	023211805	Model 3870 SS Tray Small with no holes	023213672	
2840ELV -Lower SS Wire Basket	023211806	Model 3850 SS Tray Small with no holes	023213753	
2840ELV -Lower SS Solid Basket	023211807	Model 2840ELP Solid Tray	023290011	
3850/70ELV -Large SS Wire Basket	023211840	Pouch Rack for 2340, 2540, 3545	023212706	
3850/70ELV -Small SS Wire Basket	023211850	Pouch Rack for 3870	023212805	
3850/70ELV -Small SS Solid Basket	023211860	Model 2840ELP Wire SS Basket, Wire 400x180x160mm	023211809	
3850/70ELV -Large SS Solid Basket	023211870	Model 5075ELP Wire SS Basket		
3850/70ELP SS Wire Basket	023211871	715x380x250mm	023211891	
5075ELVC Large SS Solid Basket	023211890	Model 38xx Wire SS Basket 500x260x225mm	023211892	
5075ELVC Small SS Solid Basket	023211895	Model 2840ELP SS Container 400x190x160mm	023211808	

# AUTOCLAVE SOFTWARE

EL Model Software	P/N
Warming Cycle (95° - 104°C)	023250018
Isothermal/Disinfection (Agar preparation 60° - 94°C)	023250019
Fo Control - Heat Sensitive Material and Optimal Sterilzation Time	023250020
21 CFR & R.PC.R for Part 11 Compliance	023250025
Biohazard Filtration System (for EL models - Virus Protection)	023250011
Over Pressue Cycle - For sealed bags, syringes, and bottles (not avaliable for Model 2840ELP)	023250022
Special Program to work with extended sterilization times	023250013
Special Program to have Multiple Cycle Sterilization	023250014
R.PC.R Software - Automatic Recording of Cycle Information to your PC	023212800

# WATER DISTILLERS

Think Wise. Think Pure.

- Effectively removes most tap water impurities
- Easy to remove boiler for manual fill no water hook-up
- Automatic shut-off after 1 gallon cycle
- Rust-proof stainless steel condenser

Water Distillers Accessories

- Unique recessed heating base reduces scale buildup
- Includes collector & storage bottle
- Water system is 99% free of impurities



	9000	7000	7000-8	7000-12
Distillate Capacity	1 gal/3.8L in 4.5h; up to 5gal/18.9L in 24h	3.5 gal/13.3 L in 18h	8 gal/30.4L in 28h	12 gal/45.6L in 30h
Power Supply	115V/60Hz	115V/60 Hz	115V/60 Hz	115V/60 Hz
Dimension	9.5 x 15 x 16 in 24.1 x 38.1 x 40.6 cm	11 x 17 x 17 in 28 x 43 x 43 cm	11 x 36 x 17 in 28 x 91 x 43 cm	11 x 42 x 17 in 28 x 107 x 43 cm
External Dimension	17" x 12.5" x 16"	20" x 15" x 20"	20" x 15" x 20"	26" x 21" x 34"
Weight	10lb/4.5 kg	30lb/13.5 kg	37lb/16.5 kg	44lb/20 kg
P/N	023211150	023211160	023211170	023211180

Carbon Filter Cartridge - Models 9000 (Change after 6 months of use)	
Distiller Cleaner KSD - 40 oz	
Replacement Container for Model 9000 Distiller	

### P/N

-	
023212040	
023212804	
023211155	

# HEIDOLPH TUTTNAUER AUTOCLAVES - SERVICES



All Heidolph Tuttnauer sterilizers require general maintenance and cleaning. A sterilizer often requires regulatory compliance at some local or federal standard based on the application within the operation of the unit. Our factory trained technicians are here to provide basic product upkeep, and to support your sterilizer through a variety of services outlined below:

# Preventive Maintenance (with or without calibration recommended yearly on-site or in-house)

- Replacement of Chamber BRITE, safety valve, safety valve holder, door bellow, door gasket, clean water electrode, strainer, and inspect the reservoir and piping
- Solenoid Valves are checked for proper operation
- Safety features are tested
- Prevenative maintenance agreements come with discount on parts

### IQ/OQ (recommended)

- Documented proof that utilities and equipment have been delivered and installed, in accordance with the requirements and safety regulations stipulated in the design qualifications
- Consists of:
  - IQ/OQ test plan and report
  - Temperature and pressure mapping

### PM with calibration

- Everything included with the PM service, plus temperature and pressure calbration with empty chamber temperature mapping
- A total of three cycles with probes will be run

### IQ/OQ/PQ

- Documented proof that utilities and equipment have been delivered and installed, in accordance with the requirements and safety regulations stipulated in the design qualifications
- Consists of:
- IQ/OQ/PQ all testing and reports in the IQ/OQ plus a half and full load cycle tests
- Please contact Heidolph to discuss your PQ needs to structure the load testing to meet your application

Preventive Maintenance - On-Site for all Benchtop & Vertical Models	080000115
Preventive Maintenance/Calibration Service - On-site for all Benchtop & Vertical Models	080000116
On-Site Setup and Training	080000126
On-Site Calibration Service	080000301
In-House Calibration Service	080000401
IQ/OQ (Benchtop & Vertical Models)	080000850
IQ/OQ/PQ (Benchtop & Vertical Models)	080000851

# HEIDOLPH SUPPORT CENTER



Customer Service: (866) 650-9604



Online Support service@heidolph.com

We respond in 24 hours or less **GUARANTEED!** 

# BIOLOGICAL INDICATORS & REAL TIME AUTOMATIC READER

Automatic reading and traceability system for sterilization

- 20 min or 1 hour process times
- Multiple process times can be used simultaneously
- Ease of use
- Thermal Printer
- USB Connection with free software download
- One Bi & reader can be used in both gravity and pre/post vacuum sterilizers



Mini Bio PN 023271001



Gravity/Vacuum Rapid -







Gravity Vacuum - 20 min

PN 023271003

1 hour

Gravity/Vacuum Ultra Rapid - 20 min PN 023271004

CHEMICAL INDICATOR



Multi-Variable Indicator Type 4 PN 023271007

Integrators Type 5

PN 023271008

Gravity/Vacuum - 1 hour PN 023271005



Self Adhesive Tape Type 1 PN 023271009



Thermometer

PN 023271006

PN 023271002

Combine our Biological Indicators with your IQ/OQ, IQ/OQ/PQ, Calibration, PM, or PM with calibration service for additional cycle verification.

Contact your Regional Sterilization / Life Sci Solutions Specialist if you have any questions on the best Biological Indicator to meet your application needs.

# CLEAN & SIMPLE ULTRASONIC BATHS

Clean & Simple Ultrasonic Baths feature 60kHz of quiet cleaning power, which is less aggressive to instruments, yet strong enough to remove all surface contamination. Systems are available in 1 and 3 gallon sizes for standard glassware and instruments. A full selection of optional accessories are available to meet your specific needs. For added samples processing and cleaning power, choose an "H" model, which features a built-in heating unit.

Fill your Ultrasonic Bath with water and drop in two cleaning tablets. Watch them dissolve and clean in about a minute. The tablets create a non-ionic cleaning solution that is non-corrosive, nontoxic, non-caustic and biodegradable.

- Built-in heater ("H" models) for added sample processing and cleaning power
- High efficiency 60kHz of cavitation for thorough and quiet cleaning
- Durable vinyl-clad steel housing is easy to clean and resists scratching
- Stainless steel tank with cover included
- Full line of accessories



### **Cleaning Tablet Features**

- Elimates handling of heavy 1 gallon premixed cleaning solution containers
- Enzymatic solution effectively breaks down protein

P/N

	CSU 1	CSU 1H	CSU 3	CSU 3H
Tank Dimensions (WxHxD)	9.4" x 4" x 5.4"	9.4" × 4" × 5.4"	15.5" x 6" x 9"	15.5" x 6" x 9"
External Dimensions (WxHxD)	12.6" x 8.8" x 9.9"	12.6" x 8.8" x 9.9"	19" x 13.5" x 16"	19" x 13.5" x 16"
Tank Capacity	0.8 gal/3.4L	0.8 gal/3.4L	3.0 gal/12.7L	3.0 gal/12.7L
External Dimension	17" x 12.5" x 16"	20" x 15" x 20"	20" x 15" x 20"	26" x 21" x 34"
PN	023211055	023211075	023211065	023211085

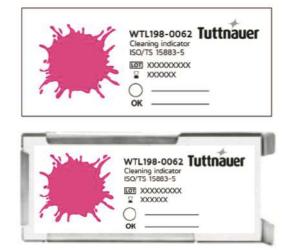
### Accessories

CSU 1 Spare Parts Kit - beaker holder, 2 glass beakers, bands and beaker labels	023212010
CSU 3 Spare Parts Kit - beaker holder, 2 glass beakers, bands and beaker labels	023212020
CSU 1 Sample Basket	023212050
CSU 3 Sample Basket	023212060
Carbon Filter Cartridge , pkg of 6	023212040
Clean & Simple Ultrasonic Cleansing Tablets, box of 144 tablets	023212030

# ULTRASONIC CLEANERS INDICATORS FOR CLEANING EFFICIENCY TESTS

Characteristics:

- Synthetic substrate, thermostable
- Test soil of organic components (proteins, carbohydrates, fatty acids and colorants) according to ISO/TS 15883:2005. Splat formulation allows detection of all factors that affect the cleaning/ washing process outcome. PN 023271012
- Should be used for routine monitoring in an ultrasonic washer
- Specific metalic holder: PN 023271011



# ULTRASONIC CLEANERS INDICATORS FOR CAVITATION PERFORMANCE TEST

Characteristics:

- For ultrasonic washing machines operating at frequencies >35 kHz, between 18-70°C
- Challenge level: High
- Especially designed to monitor the ultrasonic machine without load, in order to detect strong and weak spots of cavitation



Unprocessed





Processed with High Cavitation Energy

	P/N
Ultrasonic Vials (6 ct box)	023271010
Cleaning Indicator Holder	023271011
Cleaning Indicator (High Leve) (200 ct bag)	023271012



# HEI-MIX

# SHAKERS, MIXERS & VORTEXERS

The Hei-MIX Series has the power to complete any shaking or mixing tasks reliably and efficiently. With a wide range of attachments and extensions, each shaker can be configured to your specific application.

Our shakers have been designed with a low center of gravity, which prevents gliding at a high speed, even on a damp surface. The series also includes a temperature isolated drive that will stop any fluctuation of the temperature.

Whatever you're shaking and mixing requirements may be, the Hei-MIX Series Shakers are a robust partner and will be on your side for many years.

# HEI-MIX

Choose from size specific motions - from one to three dimensional movements, from three different load capacities and optional upgrade to an incubator shaker.



# ALL THE MOVES

### **Benefits at a Glance**





# TEST TUBE SHAKERS – VORTEXER

### **Fast and Powerful**

Ideal for quickly mixing the contents of test tubes, centrifuge tubes, and similar vessels with various diameters and lengths. Without exception, the powerful shaking motion guarantees excellent mixing results.

### Vibrating/Vortexing



**Multi Reax – The Allrounder** For mixing 12 or 26 samples simultaneously

- Package includes two attachments: Device for 26 test tubes with
   10 to 16 mm Ø, and for 12 test tubes with
   16 to 32 mm Ø
- The vibration orbit of 3 mm delivers excellent mixing results even for large liquid samples with suspended solids
- Digital, stepless speed control with speeds from 150 to 2,000 rpm
- Process timer up to 999 minutes for automatically ending the shaking function
- Virus Defense Tool

PN -036130040



### 🌼 VIRUS DEFENDER

### Reax top

### The standard model

Fast and dependable dispersion even for media with suspended solid or high viscosity – perfect for temporary operation.

### PN 036130000



### Reax Control

### The precision model

The electronic speed governor keeps speeds consistent even at low speeds and changing loads.

PN 036130020

# OVERHEAD SHAKERS

### For Small To Large Tasks

The work horse for different vessels and volumes – even water, wastewater, and silt tests pursuant to DIN 38414 part 4.



### Reax 20 for 4, 8, or 12 flasks

In accordance with DIN 38414 part 4. Also suitable for graduated cylinders or wide-neck bottles with a height up to 270 mm and a diameter up to 136 mm.

PN 036130400 | 036130420 | 036130440

# PLATFORM SHAKERS

### **Multifunctional and All-Purpose**

This product range has the right solution for all vessels and applications – from fast and powerful to slow and gentle. Even highly sensitive samples for cell research can be processed: The motor is insulated to prevent the platform from heating up and causing thermal damage to the sample.

### Vibrating

From powerful to gentle, even for liquid samples with suspended solids: achieve the best mixing results thanks to different amplitudes and load capacities.



🗱 VIRUS DEFENDER

### Titramax 100/101/1000

### Compact, powerful and temperature-controlled

Excellent mixing results the powerful or gentle way with microtiter plates – even for liquid samples with suspended solids.

PN 036130060 | 036130080 | 036130100

### Vibramax 100/110

**For gentle to powerful mixing** Varied options possible through combining tension rollers, clamps, or attachment for up to 49 test tubes.

PN 036130120 | 036130140

- Powerful or gentle mixing even for liquid samples with suspended solids
- Consistency and time move cell cultures evenly and constantly
- Versatile attachments for use with different vessels



### Rotamax 120

### The compact one The 20 mm orbit keeps samples in optimal motion. Especially suited for culture plates.

PN 036130160

### Unimax 1010/2010

**Perfect for Erlenmeyer flasks in different sizes** Combine model 1010 with the Incubator 1000 for additional tempering options, or with the Unimax 2010 for an increased load capacity of up to 10 kg.

PN 036130180 | 036130200

### **3 YEAR WARRANTY**

### **Duomax 1030**

### The temperature controllable

Two different tilt angles to choose from and compatible with the Incubator 1000 for gentle tempering.

### 5° PN 036130260

10° PN 036130280

# PLATFORM SHAKERS

### Strong and Customizable

For applications such as phase separations or staining electrophoresis gels, you need specialists: Temperature control, high load capacity, two different tilt angles, and attachments for use with separatory funnels, Erlenmeyer flasks, bottles, or culture plates.

### Reciprocating

For the correct shaking intensity during phase separation: the Promax models are perfect for use with separatory funnels.

### Wave

Three-dimensional movement and two tilt angles for best results, such as when staining electrophoretic gels.



### Promax 1020

### The temperature controllable

Compatible with the Incubator 1000 for tempering. The 32 mm stroke is perfect for separating funnels.

PN 036130220

### Promax 2020

The sturdy one Large model with 10 kg load capacity and 20 mm stroke for larger amounts.

PN 036130240

### Polymax 1040

### The temperature controllable

Models with 5° or 10° tilt angles for gentle or more powerful movement amplitude. Compatible with the Incubator 1000.

### 5° PN 036130300 10° PN 036130320

### Polymax 2040

### The large scale model

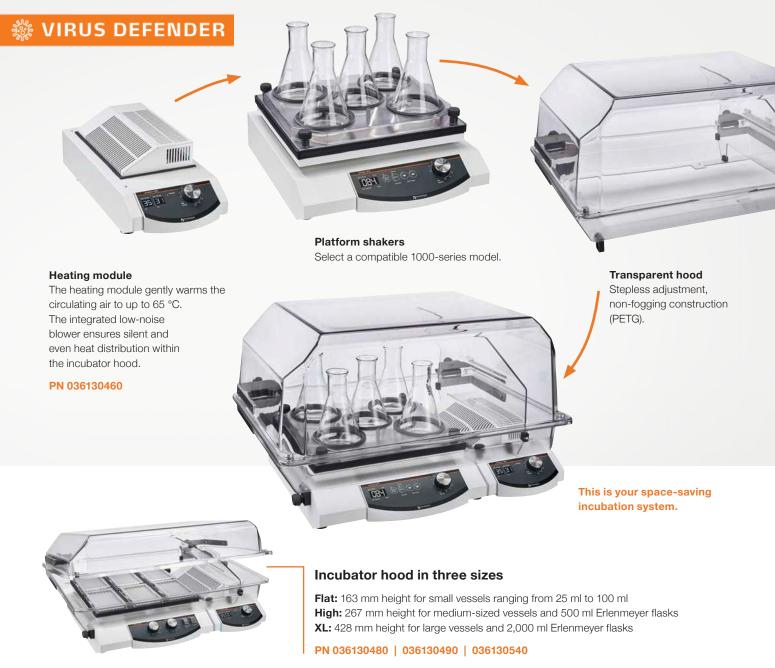
Comes with a large usable area of 39×34 cm for increased sample throughput and with stepless speed control.

5° PN 036130340 10° PN 036130360

# INCUBATOR 1000

### Make More of Your Platform Shaker

The unique, modular system lets you do it all: mixing, shaking, and tempering – all without the need for an additional steaming cabinet. Suitable for the 1000-series models of the platform shakers Duomax 1030, Polymax 1040, Titramax 1000, Unimax 1010, and Promax 1020.



Customizable or as a package (Unimax/Titramax) - find out more at www.heidolph.com

# ACCESSORIES



### A - Test Tube Tray

For test tube trays and flasks up to 50ml

### PN 036303160



**B - Tension Roller** Attachment Attachment with 2 tension rollers

### PN 036303210



### D - 25ml Erlenmeyer Attachment

Attachment for up to 22 Erlenmeyer flasks

### PN 036303260



### D - 500ml Erlenmeyer Attachment

Attachment for up to 4 Erlenmeyer flasks

PN 036303300



A - Test Tube Holding Device

Attachment to hold one test tube safely for continuous shaking

**B** - Spare Tension Roller

1 tension roller for attachement

PN 036303230

### PN 036303190



### A - Attachment for 10 Test Tubes

For up to 10 test tubes with Ø 10mm, length up to 60mm

### PN 036303180

100

of vessels



**B** - Perforated Platform

allows for individual arrangement

Universal perforated platform

### A - Test Tube Stand

For up to 6 Eppendorf vessels (1.5ml)

### PN 036303200



### C - Test Tube Attachment

For up to 36 or 49 test tubes

### PN 036303250 PN 036303240



### D - 250ml Erlenmeyer Attachment

Attachment for up to 5 Erlenmeyer flasks

PN 036303290



### D - Separtory Funnel Attachment

Attachment for 4 separtory funnels

PN 036303340



### D - 50ml Erlenmeyer Attachment

Attachement for up to 14 Erlenmeyer flasks

### PN 036303270



### D - 1000ml Erlenmeyer Attachment

Attachement for up to 2 Erlenmeyer flasks

PN 036303310



### D - 100ml Erlenmeyer Attachment

Attachment for up to 9 Erlenmeyer flasks

### PN 036303280



# D - Perforated Platform 1000

Universal perforated platform allows for individual arrangement

### PN 036303350





### D - Frame with Tension Roller

Attachment with 2 tension rollers

### PN 036303320



### **E** - Tension Roller

1 tension roller for the frame

### PN 036303370



### G - Attachment for 0.5 Liter Bottles

(Set of 4) Allows for the use of four bottles

### PN 036303510

S Clamps



1 tension roller as accessory for attachemnt

**D** - Spare Tension Roller

### PN 036303330



E - Multi-Tier Attachment

Includes perforated platform 2000 and 4 supporting rods

PN 036303470



### G - Attachement for 1 Liter Bottles

(Set of 4) Allows for the use of four bottles

PN 036303500



**E** - Perforated Platform

allows for individual arrangement

F - Adaptor for 20 Test

Allows for simultanously mixing

20 test tubes with one shaker

**S** - Separatory Funnel

(250ml, 500ml, 1000ml) For

perforated platform 2000, space

Universal perforated platform

2000

**Tubes** 

Clamp

Size 5 - 036303430

Size 6 - 036303440

Size 7 - 036303445

for 3 or 4 clamps.

PN 036303450

PN 036303480

PN 036303380



### **E** - Frame Tension Roller

Frame without tension roller

PN 036303360



# G - Tension Plate for Caps

Allows for use of common bottles with  $\emptyset$  94cm

PN 036303520



### S - Separatory Funnel Clamp (2000ml)

For perforated platform 2000, space for 2 clamps

PN 036303460

Size 1 - 036303390	
Size 2 - 036303400	
Size 3 - 036303410	
Size 4 - 036303420	

\_

A B C

D

- Reax Top & Control	
- Vibramax 100 & Rotamax 120	
- Vibramax 110	
- Unimax 1010, Duomax 1030, Polymax 1040, Promax 1020	

E - Unimax 2010, Promax 2020 & Polymax 2040	
F - Reax 2	
G - Reax 20/4 · 20/8 · 20/12	

S - Additional Accessories for Shakers and Mixers

# TECHNICAL SPECIFICATIONS

### **Shakers & Mixers**

Model	Reax Top	Reax Control	Multi Reax
Motion	Vibrating	Vibrating	Vibrating
Rotation Speed (rpm)	0 - 2,500	0 - 2,500	150 - 2,000
Rotation Speed Setting	Analog	Analog	Digital
Orbit/Stroke (mm)	5	5	3
Operating Mode	Automatic or Continuous	Automatic or Continuous	Timer or Continuous
Input Power (W)	51	51	50
Weight (kg)	2.8	2.8	9.8
Dimensions (w x h x d)(mm)	134 x 105 x 172	134 x 105 x 172	270 x 172 x 410
Platform Size (mm)	_	-	-
Accessories Included	-	-	2 Carousel Attachments
Load Capacity (kg)	-	-	1.5
Overheat Protection	Self-Resetting	Self-Resetting	Self-Resetting
Permissible Ambient Conditions	5 - 31°C at 80% humidity 32 - 40°C decreasing linearly up to max 50% rel. humidity	5 - 31°C at 80% humidity 32 - 40°C decreasing linearly up to max 50% rel. humidity	5 - 31°C at 80% humidity 32 - 40°C decreasing linearly up to max 50% rel. humidity
Protection Class (DIN EN 60529)	IP 22	IP 22	IP 30
Model	Titramax 100	Titramax 101	Titramax 1000
Motion	Vibrating	Vibrating	Vibrating
Rotation Speed (rpm)	150 - 1,350	150 - 1,350	150 - 1,350
Rotation Speed Setting	Electronic Control	Electronic Control	Electronic Control
Orbit/Stroke (mm)	1.5	3	1.5
Operating Mode	Timer or Continuous	Timer of Continuous	Timer of Continuous
Input Power (W)	31	31	31
Weight (kg)	2	2	5
Dimensions (w x h x d)(mm)	245 x 125 x 310	245 x 125 x 310	320 x 125 x 375
Platform Size (mm)	220 x 220	220 x 220	290 x 258
Accessories Included	Space for 4 Microtiter Plates	Space for 4 Microtiter Plates	Space for 6 Microtiter Plates

2

IP 30

Self-Resetting

5 - 31°C at 80% humidity

32 - 40°C decreasing linearly

up to max 50% rel. humidity

2

IP 30

Self-Resetting

5 - 31°C at 80% humidity

32 - 40°C decreasing linearly

up to max 50% rel. humidity

5

IP 30

Self-Resetting

5 - 31°C at 80% humidity

32 - 40°C decreasing linearly

up to max 50% rel. humidity

Permissible Ambient Conditions

Load Capacity (kg)

Protection Class (DIN EN 60529)

\* Standard supply voltage 115V

Motion	Vibrating
Rotation Speed (rpm)	150 - 1,350
Rotation Speed Setting	Electronic Control
Orbit/Stroke (mm)	3
Operating Mode	Timer or Continuous
Input Power (W)	31
Weight (kg)	5.5
Dimensions (w x h x d) (mm)	245 x 125 x 310
Platform Size (mm)	220 x 220
Accessories Included	Non-skid Rubber Mat
Load Capacity (kg)	2
Overheat Protection	Self-Resetting
	5 - 31°C at 80%

Vibramax 100

Model

Permissible Ambient Conditions	5 - 31°C at 80% humidity 32 - 40°C decreasing linearly up to max 50% rel. humidity

Motion Rotation Speed (rpm)	Reciprocating 30 - 250
Rotation Speed (rpm)	
	Digital
Rotation Speed Setting	Digital
Orbit/Stroke (mm)	32
Operating Mode	Timer or Continuous
Input Power (W)	50
Weight (kg)	8.0
Dimensions (w x h x d) (mm)	320 x 125 x 375
Platform Size (mm)	290 x 258
Accessories Included	Non-skid Rubber Mat
Load Capacity (kg)	5
Overheat Protection	Self-Resetting
Permissible Ambient Conditions	5 - 31°C at 80% humidity 32 - 40°C decreasing linearly up to max 50% rel. humidity
Protection Class (DIN EN 60529)	IP 40

### Vibramax 110

Vibrating
150 - 2,500
Electronic Control
1.5
Timer or Continuous
46
12.2
245 x 146 x 310
140 x 140
Non-skid Rubber Mat
2
Self-Resetting
5 - 31°C at 80% humidity 32 - 40°C decreasing linearly up to max 50% rel. humidity

# Orbital 20 - 300 Electronic Control 20 Timer or Continuous 33 5.5 245 x 125 x 310 220 x 220 Non-skid Rubber Mat 2 Self-Resetting 5 - 31°C at 80% humidity 32 - 40°C decreasing

Rotamax 120

32 - 40°C decreasing linearly up to max 50% rel. humidity

Duomax 1030		
Rocking		
2 - 50		
Electronic Control		
Timer or Continuous		
115		
8.0		
320 x 185 x 375		
290 x 258		
Non-skid Rubber Mat		
5		
Self-Resetting		
5 - 31°C at 80% hu- midity 32 - 40°C decreasing linearly up to max 50% rel. humidity		
IP 40		

### Unimax 1010

Orbital
30 - 500
Digital
10
Timer or Continuous
50
8.0
320 x 125 x 375
290 x 258
Non-skid Rubber Mat
5
Self-Resetting
5 - 31°C at 80% hu- midity 32 - 40°C decreasing

midity 32 - 40°C decreasing linearly up to max 50% rel. humidity

### Polymax 1040

Way	ve
2 -	50
Eleo	ctronic Control
-	
Tim	er or Continuous
115	
8.0	
320	x 195 x 375
290	) x 258
Nor	n-skid Rubber Mat
5	
Self	-Resetting
mid 32 · line	31°C at 80% hu- lity - 40°C decreasing arly up to max 50% humidity
	.0

### Unimax 2010

Orbital
20 - 400
Digital
20
Timer or Continuous
115
16
426 x 135 x 435
390 x 340
Non-skid Rubber Mat
10
Self-Resetting
5 - 31°C at 80%

5 - 31°C at 80% humidity 32 - 40°C decreasing linearly up to max 50% rel. humidity

### Polymax 2040

Wave
2.5 - 50
Digital
-
Timer or Continuous
115
16
426 x 208 x 435
390 x 340
Non-skid Rubber Mat
10
Self-Resetting
5 - 31°C at 80% humidity 32 - 40°C decreasing linearly up to max 50% rel. humidity
IP 20

# Promax 2020

Reciprocating 20 - 400 Digital 20

Timer or Continuous

426x 135 x 435

Self-Resetting 5 - 31°C at 80% humidity 32 - 40°C decreasing linearly up to max 50% rel. humidity IP 20

Non-skid Rubber Mat

390 x 340

10

115 16

# HEI-FLOW

# PERISTALTIC PUMPS

The Heidolph Peristaltic Pumps of the Hei-FLOW Series are perfectly designed for precise dosing and dispensing of aggressive, corrosive or even sterile media.

Our dosing pumps guarantee a high degree of safety, convenience and cost savings. The motor of our metering pumps will be switched off if a high thermal load situation occurs to avoid accidents.

You are able to achieve high precision with our hose pump, even for flow rates starting at 0.005 ml/min. The sealed housing protects your dosing pump for aggressive fumes, liquids and vapors to prevent internal corrosion and thus reduces the maintenance costs of your laboratory pump.



### HEI-FLOW

The versatile Hei-FLOW Series can offer you all these options with flow rates ranging from 0.005 to 4,151 ml per minute depending on configuration.

- All units are self-priming and comes without any valves, thus providing care-free operation.
- Accurate liquid delivery starting from 0.005 ml/min.
- Additional safety is provided by sparkless motors which reduce incidents
- Optional foot panel control via cable to start and stop your pump drive outside a closed fume hood increasing your personal safety.
- Complete packages including pump drive, head and compatible tubing reducing your selection process



### PUMP UP THE VOLUME

#### **Benefits at a Glance**



The Hei-FLOW is standard for pumping and highly accurate interval dosing and interval operation allowing for standstills and filling of flasks. Flow rates range from 0.005 to 4,151 ml per minute depending on your configuration.

# The Hei-FLOW Series – Precise Dosing and Dispensing

Complete with maintenance free motors and corrosion free protected house, the Hei-FLOW Series ensures a long life span, reliability and robustness while maintaining minimal maintenance and repair costs.



#### **Hei-FLOW Value**

The Hei-FLOW Value Peristaltic Pumps are ideal for standard applications and liquid transfer.

Value 01: 036150010 Value 06: 036150030 Value 01 Multi: 036150130



#### **Hei-FLOW Advantage**

The Hei-FLOW Advantage Peristalitic Pumps are ideal for reproducible results and liquid transfer

Advantage 01: 036150050 Advantage 06: 036150070 Advantage 01 Multi: 036150150



#### **Hei-FLOW Precision**

The Hei-FLOW Precision Peristalitic Pumps are ideal for reproducibility for pumping and dosing.

Precision 01: 036150090 Precision 06: 036150110 Precision 01 Multi: 036150110

\* Multi Versions include an adapter for multi-channel pump heads.

#### **3 YEAR WARRANTY**

### SINGLE-CHANNEL PUMP HEADS

#### Individually Customize Your Hei-FLOW Model

Pumping and dosing for all applications, even for specialized tasks such as pumping organic cell cultures. The sealed ball bearings protect against corrosion and ensure reliable continuous operation. The varied selection of pump drives for single-channel operation allows customization perfectly suited to individual applications:

#### **SP Standard**

#### All-purpose for regular pumping tasks

With rollers made of stainless steel and polyamide. Two models are available for tubes with a wall thickness of 1.6 mm or 2.5 mm. Depending on drive and tubing, the flow rate ranges from 2.0–4,151 ml/min. Convex rollers prevent damage to organic cell cultures.

wt 1.6mm PN 036150430 wt 2.5mm PN 036150440

#### SP Vario

#### Flexible for multi-purpose use

A rotor with adjustable roller distance allows for tubes with a wall thickness ranging from 1.6 to 2.5 mm. The rollers are made of stainless steel and coated aluminum. Depending on drive and tubing, the flow rate ranges from 2.0–4,151 ml/min. Convex rollers prevent damage to organic cell cultures.

#### wt 1.6mm PN 036150450





For cellular research, you should use a pump drive with convex rolls that squeeze the tube in an unconventional

manner.

#### SP Quick

#### For when you need to change tubes quickly

The convenient lever allows tubes to be changed in seconds. The rollers are made of stainless steel. Two models are available for tubes with a wall thickness of 1.6 mm or 2.5 mm. Depending on drive and tubing, the flow rate ranges from 0.38–3,436 ml/min. Precise measuring: the five rollers ensure low pulsation.

wt 1.6mm PN 036150390 wt 2.5mm PN 036150400

### TUBES & ACCESSORIES

#### Tygon® tube

For standard laboratory applications, food industry applications, or for hydrocarbons. Good resistance to acids, alkalis, and inorganic media – high durability. Thermoplastic and suitable for temperatures from -78 °C to +75 °C.

#### Tygon<sup>®</sup> standard

For standard laboratory applications. Non-toxic and non-oxidizing

#### Tygon<sup>®</sup> 2001 for food products

Ideal for products with a high fat content. Does not contain plasticizers or oils

#### Tygon<sup>®</sup> for hydrocarbons

Specially for hydrocarbons, mineral oil products and distillates. Ozone and UV resistant





#### Other tube types

PharMed<sup>®</sup>-, tubes made of silicone and Viton<sup>®</sup> for applications in pharmacy, medicine, biology, or at high temperatures of up to +205 °C.

#### **PharMed**®

Ideal for medical, lab and research uses

#### Silikon

Platinum-coated silicone hose for use in pharmaceuticals and biology

#### Viton®

Excellent acid resistance at high temperatures

#### Coupling

For tube sizes from 0.2–2.8 mm for connecting stop and extension tubes.

PN 036304360



You can find an overview of all our tubes online at www.heidolph.com.

### MULTI-CHANNEL PUMP HEADS

#### Easy to Configure or Upgrade

Simply select the adapter and the multi-channel pump head for the compatible Hei-FLOW model (01 drive) and add compatible cassettes and tubes.



#### **Precise Dosing**

Thanks to the 8-roller system, you can use the multi-channel pump heads C4 and C12 for low pulsation pumping and, depending on the utilized tubes, high-precision dosing. The C12 model with integrated reduction gear is perfect for even the smallest volumes of flow rates from 0.005 to 37 ml/min. Use of two-stop tubing is required for the secure fastening of tubes.



Multi-Channel Pump Head C4 Assembly with 4 x cassette small

PN 036150480



Multi-Channel Pump Head C12 Assembly with 12 x cassette small PN 036150460





Cassette Small

PN 036150490

Two-Stop Tubing

0.9mm 036303560 1.4mm 036303570 2.8mm 036304060

#### **Customized Pumping**

Choose your assembly depending on the desired flow rate: Medium Cassette for 0.24 to 27 ml/min or Large Cassette for 1 to 364 ml/min. The large and medium multi-channel cassettes are suitable for tubes of different diameters with a wall thickness of 1.6 mm.







Assembly with 8 x cassette medium or 4 x cassette large

PN 036150470



PN 036150500



**Cassette Large** 

PN 036150510

### TUBING SIZES FOR SINGLE-CHANNEL PUMPS

Tubing sizes		•	0	0	0	0
Inner diameter	(mm)	0.8	1.7	3.1	4.8	6.4
Outer diameter	(mm)	4	4.9	6.3	8	9.5
Wall thickness (wt)	(mm)	1.6	1.6	1.6	1.6	1.6
Max. pressure (continuous / short time)	(bar)	0.7 / 1.7	0.7 / 1.7	0.7 / 1.7	0.5 / 1.5	0.5 / 1.5
Suction height	(mH2O)	8.8	8.8	8.8	8.8	6.7

#### Average flow rates in combination with pump head and pump drive:

						_					
SP quick		min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
Hei-FLOW Advantage 06 / Hei-FLOW Precision 06	(ml/min)	2	33	8	186	26	653	59	1,529	89	2,072
Hei-FLOW Value 06	(ml/min)	4	35	17	197	57	695	123	1,494	186	1,765
Hei-FLOW Advantage 01 / Hei-FLOW Precision 01	(ml/min)	0.38	9	2	40	5	126	12	233	17	409
Hei-FLOW Value 01	(ml/min)	0.83	9	3	41	11	134	25	292	36	413
SP standard / SP vario				min.	max.	min.	max.	min.	max.	min.	max.
Hei-FLOW Advantage 06 / Hei-FLOW Precision 06	(ml/min)	_		11	257	43	1,017	105	2,549	167	4,056
Hei-FLOW Value 06	(ml/min)			22	249	93	1,037	228	2,613	364	4,151
Hei-FLOW Advantage 01 / Hei-FLOW Precision 01	(ml/min)			2	55	9	221	21	530	33	813
Hei-FLOW Value 01	(ml/min)	_		5	61	19	223	44	519	75	861

#### Tubing P/N (per meter):

Silicone	036303620	036303630	036303640	036303650	036303660
Viton®	036303760	036303770	036303780	036303790	036303800
PharMed®	036303940	036303950	036303960	036303970	036303980
Tygon® (standard)	036304120	036304130	036304140	036304150	036304160
Tygon® (hydrocarbon)	036304200	036304210	036304220	036304230	036304240
Tygon® 2001 (food)	036304280	036304290	036304300	036304310	036304320

Tubing sizes				
Inner diameter	(mm)	4.8	6.4	7.9
Outer diameter	(mm)	9.8	11.3	12.9
Wall thickness (wt)	(mm)	2.5	2.5	2.5
Max. pressure (continuous / short time)	(bar)	0.8 / 1.8	0.8 / 1.8	0.8 / 1.8
Suction height	(mH <sub>2</sub> O)	8.8	8.8	8.8

#### Average flow rates in combination with pump head and pump drive:

	min.	max.	min.	max.	min.	max.
(ml/min)	58	1,527	85	2,248	113	3,171
(ml/min)	123	1,580	180	2,411	257	3,436
(ml/min)	12	299	18	435	25	630
(ml/min)	26	299	38	454	50	636
	min.	max.	min.	max.		
(ml/min)	92	2,390	139	3,821	-	
(ml/min)	203	2,426	313	3,782		
(ml/min)	15	491	28	769		
(ml/min)	42	493	68	773	_	
	(ml/min) (ml/min) (ml/min) (ml/min) (ml/min) (ml/min)	(ml/min)         58           (ml/min)         123           (ml/min)         12           (ml/min)         26           (ml/min)         26           (ml/min)         92           (ml/min)         203           (ml/min)         15	(ml/min)         58         1,527           (ml/min)         123         1,580           (ml/min)         12         299           (ml/min)         26         299           (ml/min)         26         299           (ml/min)         26         2,390           (ml/min)         92         2,390           (ml/min)         203         2,426           (ml/min)         15         491	(ml/min)         58         1,527         85           (ml/min)         123         1,580         180           (ml/min)         12         299         18           (ml/min)         26         299         38           (ml/min)         26         299         38           (ml/min)         26         299         38           (ml/min)         92         2,390         139           (ml/min)         203         2,426         313           (ml/min)         15         491         28	(ml/min)         58         1,527         85         2,248           (ml/min)         123         1,580         180         2,411           (ml/min)         12         299         18         435           (ml/min)         26         299         38         454           min.         max.         min.         max.         max.           (ml/min)         92         2,390         139         3,821           (ml/min)         203         2,426         313         3,782           (ml/min)         15         491         28         769	(ml/min)         58         1,527         85         2,248         113           (ml/min)         123         1,580         180         2,411         257           (ml/min)         12         299         18         435         25           (ml/min)         26         299         38         454         50           min.         max.         min.         max.         max.         139         3,821           (ml/min)         203         2,426         313         3,782         769

#### Tubing P/N (per meter):

Silicone	036303670	036303680	036303690
Viton®	036303810	036303820	036303830
PharMed®	036303990	036304000	036304010
Tygon® (standard)	036304170	036304180	036304190
Tygon® (hydrocarbon)	036304250	036304260	036304270
Tygon® 2001 (food)	036304330	036304340	-

### TUBING SIZES FOR MULTI-CHANNEL PUMPS

Tubing sizes			0.2 0.5			0.9		1.4		2.8		_	
Inner diameter		(mm)			0.89		1.42		2.79				
Outer diameter		(mm)				2.69		69 3.22		4.59		-	
Wall thickness (wt)		(mm)	0.9		0.9		0.9		0.9		0.9		-
Max. pressure (continuous	s / short time)	(bar)	0.5 / 1.5		0.5 / 1.8	5	0.5 / 1.	5	0.5 / 1.	5	0.5 / 1.	5	_
Suction height		(mH <sub>2</sub> O)	7		7		7		7		7		_
Average flow rates i	n combination with cas	sette, pump	head and	l pump o	drive:								
Hei-FLOW Advantage 0	1 / Hei-FLOW Precision 01		min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	max
Cassette small / pump hea	ad C 12	(ml/min)	0.005	0.11	0.01	0.54	0.03	1	0.10	3	0.29	9	12
Cassette small / pump hea	ad C 4	(ml/min)	0.02	0.49	0.08	2	0.24	6	0.60	14	2	36	4
Hei-FLOW Value 01			min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	
Cassette small / pump hea	ad C 12	(ml/min)	0.005	0.11	0.02	0.42	0.10	1	0.23	3	0.69	8	12
Cassette small / pump hea	ad C 4	(ml/min)	0.04	0.53	0.17	2	0.57	6	1	15	4	37	4
Tubing P/N:													
Silicone	Two-Stop Tubing for case	sette small	-				036303	3560	036303	570	036303	1580	-
	Extension tube (per mete		-				036303		036303		036303		-
Viton®	Two-Stop Tubing for case		-				036303		036303		036303		-
	Extension tube (per mete		-				036303	3730	036303	740	036303	3750	-
PharMed®	Two-Stop Tubing for case		0363038	340	036303	850	036303		036303		036303		-
	Extension tube (per mete		0363038		036303	900	036303910 036303920		036303930		-		
Fygon® (standard)	Two-Stop Tubing for case		0363040	)20	036304	304030 036304040		1040	036304050		036304060		-
	Extension tube (per mete	r)	0363040	)70	036304	080	036304	1090	036304	100	036304	110	-
Fittings for extension tube		,	0363043		036304	360	036304		036304		036304		-
							·		·				-
Tubing sizes			0.8		1.7		3.1		4.8		6.4		-
nner diameter		(mm)	0.8		1.7		3.1 4.8			6.4		_	
Outer diameter		(mm)	4		4.9		6.3 8		9.5		-		
Wall thickness (wt)		(mm)	1.6		1.6		1.6 1.6			1.6		_	
Max. pressure (continuous	s / short time)	(bar)	0.7 / 1.7		0.7 / 1.	7	0.7 / 1.7		0.7 / 1.7		0.5 / 1.5		_
Suction height		(mH <sub>2</sub> O)	8.8		8.8		8.8		8.8		6.7		_
Average flow rates i	n combination with cas	sette, pump	head and	l pump d	drive:								
-	1 / Hei-FLOW Precision 01		min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	max
Cassette medium / pump	head C 8	(ml/min)	0.24	7	1	26							8
Cassette large / pump hea		(ml/min)			1	27	4	90	8	192	11	329	4
Hei-FLOW Value 01		,	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	
Cassette medium / pump	head C 8	(ml/min)	0.55	6.97	2.17	27							8
Cassette large / pump hea	ad C 8	(ml/min)			2	27	7	85	18	246	26	364	4
Tubing P/N (per met	er):												-
Silicone			0363036		036303		036303640				036303660		-
Viton®			0363037		036303			303780 036303790		036303800		_	
PharMed®			0363039	940	036303	950	036303	3960	036303	3970	036303980		-
The second of the second second			0363041	036304120		036304130		036304140 036304150		036304160			
Tygon® (standard)				036304200 036304210					_		-		_

Tygon® 2001 (food)

### TECHNICAL SPECIFICATIONS

#### **Peristaltic Pumps**

Model	Hei-FLOW Value 01	Hei-FLOW Value 06		
PN Including Multi-Channel Adaptor	036150130	-		
Flow Rates - Single Channel Pumps (ml/min)	0.85 - 861	4.0 - 4,151		
Flow Rates - Multi-Channel Pumps (ml/min)	0.005 - 364	-		
Flow Rate Accuracy* (%)	±5	±5		
Speed Range (rpm)	10 - 210	50 - 600		
Speed Setting	Scale	Scale		
Electronic Speed Control	Analog	Analog		
Control Accuracy Motor (%)	±2	±2		
Select Direction of Rotation	CW/CCW	CW/CCW		
Motor Power (W)	100	100		
Supply Power (W)	100	100		
Analog Interface	-	-		
Digital Interface	-	-		
Volume Dosing (ml)		-		
Interval Dosing (ml)	-	-		
Smooth Start	-			
Electronic Brake		-		
Foot-pedal Connection	-	-		
Continuous Operation (hours/days)	24/7	24/7		
Safety Feature	Overheat Protection	Overheat Protection		
Weight (kg)	7.6	7.1		
Protection Class (DIN EN 60529)	IP 55`	IP 55		
Permissible Ambient Conditions	5 - 31°C at 80% rel. humidity 32 - 40°C decreasing linearly up to max 50% rel. humidity	5 - 31°C at 80% rel. humidity 32 - 40°C decreasing linearly up to max 50% rel. humidity		
Dimensions (w x d x h)(mm)	166 x 256 x 225	166 x 256 x 225		

 $^{\ast}$  Flow rate accuracy pertains to water without counter pressure Standard supply voltage: 115V

Multi Channel Adaptor To connect pump drive to multi-channel pump head

PN 036304400



#### Foot Pedal

Hei-FLOW Advantage 01, Hei-FLOW Advatage 06, and Hei-FLOW Precision 06 only

PN 036303550



Model	Hei-FLOW Advantage 01	Hei-FLOW Advantage 06	Hei-FLOW Precision 01	Hei-FLOW Precision 06
PN Including Multi-Channel Adaptor	036150150		036150170	-
Flow Rates - Single Channel Pumps (ml/min)	0.38 - 813	2.0 - 4,056	0.35 - 813	2.0 - 4,056
Flow Rates - Multi-Channel Pumps (ml/min)	0.005 - 329	-	0.005 - 329	-
Flow Rate Accuracy* (%)	±3.5	±3.5	±1	±2
Speed Range (rpm)	5 - 120	24 - 600	5 - 120	24 - 600
Speed Setting	Scale	Scale	Digital	Digital
Electronic Speed Control	Digital	Digital	Digital	Digital
Select Direction of Rotation	±0.5	±0.5	±0.5	±0.5
Control Accuracy Motor (%)	CW/CCW	CW/CCW	CW/CCW	CW/CCW
Supply Power (W)	100	100	100	100
Supply Power (W)	100	100	100	100
Analog Interface	For Speed 0 - 10V/ 4 - 20 mA Direction of Rotation Start/Stop	For Speed 0 - 10V/ 4 - 20 mA Direction of Rotation Start/Stop	For Speed 0 - 10V/ 4 - 20 mA Direction of Rotation Start/Stop	For Speed 0 - 10V/ 4 - 20 mA Direction of Rotation Start/Stop
Digital Interface	-	-	RS 232	RS 232
Volume Dosing (ml)	-	-	0.001 - 9,999	0.001 - 9,999
Interval Dosing (ml)	-	-	0.001 - 9,999 in breaks 0.1 sec - 750 h	0.001 - 9,999 in breaks 0.1 sec - 750 h
Smooth Start	-	-	Yes	Yes
Electronic Brake	-	-	Yes	Yes
Foot-pedal Connection	Yes	Yes	Yes	Yes
Continuous Operation (hours/days)	24/7	24/7	24/7	24/7
Safety Feature	Electronic Current Limiter and Overheat Proection	Electronic Current Limiter and Overheat Proection	Electronic Current Limiter and Overheat Proection	Electronic Current Limiter and Overheat Proection
Weight (kg)	7.6	7.3	7.7	7.3
Protection Class (DIN EN 60529)	IP 55	IP 55	IP 55	IP 55
Permissible Ambient Conditions	5 - 31°C at 80% rel. humidity 32 - 40°C decreasing linearly up to max 50% rel. humidity	5 - 31°C at 80% rel. humidity 32 - 40°C decreasing linearly up to max 50% rel. humidity	5 - 31°C at 80% rel. humidity 32 - 40°C decreasing linearly up to max 50% rel. humidity	5 - 31°C at 80% rel. humidity 32 - 40°C decreasing linearly up to max 50% re humidity
Dimensions (w x d x h)(mm)	166 x 256 x 225	166 x 256 x 225	166 x 256 x 225	166 x 256 x 225

# HEI-PLATE

### MAGNETIC STIRRERS

Even the smallest daily helper should inspire and accompany you for many years. That is the reason for our Magnetic Stirrers to be uncompromising when it comes to quality and reliability. The Hei-PLATE magnetic stirrers impress through a sealed and fireproof housing and an unique Kera-Disk® hotplate coating, which stands for chemical resistance and faster heat-up times.

The powerful and extended heating capacity of 600 W reduces process times noticeably. Intelligent functions such as dynamic residual heat indicator, a separate way to activate the heat-function and an independent second safety circuit make the Heidolph Magnetic Stirrer the safest in terms of heating and mixing in your lab.



### HEI-PLATE

The premium devices of the Hei-PLATE Series offer the highest operating safety and comfort standards. 600 W heating capacity and the special Kera-Disk® hotplate with aluminum core allow for minimum heat-up times that result in cost reductions.

- All units with digital display allow for easy setting and monitoring values on the illuminated readout.
- The strong magnetic field allows for easy stirring of even high viscosity media.
- The unique Kera-Disk® coating is extremely chemical-resistant and scratch-proof, therefore the plate can be cleaned easily from solvents, oil and other contaminations.
- Unit will power off in case of a short circuit, damage to the temperature sensor, a motor failure or other incidences during operation.
- A separate on/off switch for heating prevents unintentional heat-up. If heating is switched on, the on/off button is illuminated for visual control.





### UNCOMPROMISING QUALITY

#### Benefits at a Glance





The Hei-PLATE Series has been tested and certified by OSHA's National Recognized Testing Laboratory (NRTL) Program. The certification states that the product complies with the requirements of one or more appropriate product safety test standards.

## The Hei-PLATE Series – When Power Meets Safety

### STANDARD MODELS

The premium devices of the Hei-PLATE Series are ideal for decomposing organic and inorganic substances from smooth to intense.



#### **MR Hei-Standard**

The Hei-Standard is for all standard applications. The two separate control knobs for direct access to parameters make it simple to use.

145mm: 036110519 135mm: 036110521



#### **MR Hei-Tec**

The Hei-Tec has precise control options and device parameter monitoring on the digital display. It can also be connected to a temperature sensor.

145mm: 036110550 135mm: 036110620

145mm with PT1000: 036110582 135mm with PT1000: 036110583



#### **MR Hei-Connect**

The Hei-Connect is for precise process documentation. The digital display provides precise control options and device monitoring with the compatibility with the PT 1000 temperature sensor. Inclues Hei-Control Software.

#### 145mm: 036110601 135mm: 036110602

145mm with PT1000: 036110603 135mm with PT1000: 036110604

#### **3 YEAR WARRANTY**

### NON-HEATING MODELS

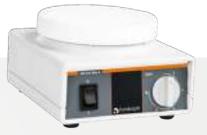
The non-heating models of the Hei-PLATE Series are ideal for gentle stirring in biology and microbiology applications.



#### MR Hei-MIX L

The Hei-MIX L includes a 145 mm Kera-Disk® top plate and the powerful stirring magnet allows stirring with the volume up to 20 liters. The speed range is from 100 to 1,400 rpm.

#### PN 036110465



#### MR Hei-MIX S

The Hei-MIX S has a space saving polyamide housing. The white PVDF top plate is perfect for titration and comes with a diameter of 104 mm. The speed range of up to 2,200 rpm is sufficient for applications up to 5 liters.

#### PN 036110460

#### **3 YEAR WARRANTY**

### TECHNICAL SPECIFICATIONS

#### **Magnetic Stirrers**

Model	Hei-Mix S	Hei-Mix L			
Speed Range	0 - 2,200 rpm	100 - 1400 rpm			
Speed Accuracy	±5%	±2%			
Drive	Shaded Pole Motor	EC-Motor			
Operating Mode	Continuous	Continuous			
Display	_	_			
Analog/Digital Interface	-	_			
leating Power	-	_			
Hotplate Temperature	-	_			
Medium Temperature Max	-	_			
Accuracy Temperature Setting		-			
External Temperature Sensor	-	_			
Temperature Accuracy with External Temperature Sensor					
Sensor Breakage Protection	-	-			
Femperature Control		_			
Femperature Accuracy Hotplate		-			
Residual Heat Indicator		_			
Safety Circuit Hotplate	-	_			
lime	-	-			
Stirring Capacity Max (H₂O)	5L	20L			
_oad Max	6 kg	25 kg			
Power Consumption	7 W	20 W			
Plate Diameter	104 mm	145 mm			
Plate Material	PVDF	Kera-Disk® - Aluminum alloy coated			
Neight	1.1 kg	2.9 kg			
Dimensions (w/d/h)	140 x 126 x 80 mm	173 x 277 x 94 mm			
Permissible Ambient Conditions	5 - 31° <b>C</b> at 80% rel. humidity, 32 - 40° <b>C</b> decreasing linearly up max. 50% rel.humidity	5 - 31°C at 80 % rel. humidity 32 - 40°C decreasing linearly up to max. 50% rel. humidity			
Protection Class	IP 21	IP 32			

Model	Hei-Standard
Speed Range	100 - 1,400 rpm
Speed Accuracy	±2%
Drive	EC-Motor
Operating Mode	Continuous
Display	-
Analog/Digital Interface	-
Heating Power	600 W*
Hotplate Temperature	20 - 300° <b>C</b>
Medium Temperature Max	250°C
Accuracy Temperature Setting	-
External Temperature Sensor	Pt 1000
Temperature Accuracy with Extern Temperature Sensor	nal
Sensor Breakage Protection	with Pt 1000
Temperature Control	Micro Controller r
Temperature Accuracy Hotplate	±5°C
Residual Heat Indicator	Yes
Safety Circuit Hotplate	25°C - over hotplate temperature
Time	-
Stirring Capacity Max (H <sub>2</sub> O)	20 L
Load Max	25 kg
Power Consumption	600 W
Plate Diameter	135mm & 145 mm
Plate Material	Kera-Disk® - Aluminum alloy coated
Weight	2.9 kg
Dimensions (w/d/h)	173 x 277 x 94 mm
Permissible Ambient Conditions	5 - 31°C at 80 % rel. humidity 32 - 40°C decreasing linearly up to max. 50% rel. humidity
Protection Class	IP 32

#### Hei-Tec 100 - 1,400 rpm ±2% EC-Motor Continuous Digital \_ 600 W\* 20 - 300°**C** 250°C ±1°C Pt 1000 ±1°C with Pt 1000 Micro Controller ±5°C Yes 25°C - over hotplate temperature \_ 20 L 25 kg 600 W 135mm & 145 mm Kera-Disk® - Aluminium alloy coated 2.9 kg 173 x 277 x 94 mm 5 - 31°C at 80 % rel. humidity 32 - 40°C decreasing linearly up to max. 50% rel. humidity IP 32

#### Hei-Connect

100 - 1,400 rpm
±2%
EC-Motor
Continuous
Digital
Digital (RS 232)
600 W*
20 - 300° <b>C</b>
250° <b>C</b>
±1°C
Pt 1000
±1°C
with Pt 1000
Micro Controller
±5°C
Yes
25°C - over hotplate temperature
Yes
20 L
25 Kg
600 W
135mm & 145mm
Kera-Disk® - alloy coated
2.9 kg
173 x 277 x 94 mm
5 - 31°C at 80 % rel. humidity 32 - 40°C decreasing linearly up to max. 50% rel. humidity
IP 32



# HEI-TORQUE

### OVERHEAD STIRRERS

Our overhead stirrers enrich your lab with enhanced performance, reliability and powerful stirring for years. The Hei-TORQUE laboratory stirrers are equipped with the latest drive technology and the sealed housing protects the inside from vapor and dust.

Your lab agitator should not just be robust, but also practical. With its unique Quick-Chuck, you can change impellers fast and easy without any additional tools.

The Hei-TORQUE Series provides a suitable stirring tool for every application.

### HEI-TORQUE

The Hei-TORQUE models are suitable for all requirements, including small and light equipment, easy operation with high torque, precise adjustment options and an interface for documentation.

- All stirrers maintain exact speed under changing loads.
- A through-shaft design allows for adjusting the impeller position to make height adjustments more convenient to you.
- Reduce your work time and achieve excellent mixing results in challenging high-viscosity media.
- A single grip allows you to readjust the height of your stirrer on the optional telescopic stand.
- RS232 or USB interface to save all process data in a digital file.
- Unique impeller technology for demanding applications that mixes gels and other similar media in shorter times which reduces process cost and working hours.
- Intuitive touch panel made of glass designed for easy operation.
- All models are designed for continuous 24 hour operation - including challenging high viscosity applications in polymer research.



### HEI ON POWER

#### **Benefits at a Glance**





The Hei-TORQUE Series has been tested and certified by OSHA's National Recognized Testing Laboratory (NRTL) Program. The certification states that the product complies with the requirements of one or more appropriate product safety test standards.

# The Hei-TORQUE Series – Infinite Stirring Capabilities

The Hei-TORQUE Series has a suitabe solution for all requirements, including small and light equipment, easy operation with high torque, precise adjustment options and an interface for documentation.



#### **Hei-TORQUE** Core

The Hei-TORQUE Core is lightweight for big tasks and has a compact design with enough power for large volumes. The smallest of the devices can mix up to 25L at low viscosity with ease.

#### PN 036090005



#### **Hei-TORQUE Value**

The Hei-TORQUE Value is ideal for standard stirring tasks. They are designed to mix and disperse medias that require non-reproducible results in high-viscosity applications.

Value 100: 036093030 Value 200: 036093050 Value 400: 036093070

#### **Hei-TORQUE** Precision

The Hei-TORQUE Precision is ideal for demanding tasks which have to be reproducible and documentable. The huge number of additional features and operation modes allows for a perfect adjustment to your individual application.

Precision 100: 036093090 Precision 200: 036093110 Precision 400: 036093150

#### **3 YEAR WARRANTY**

### IMPELLERS

Precise working with an overhead stirrer depends on the right choice of the stirrer tool. When choosing a stirrer tool you have to consider its different characteristics and their effects.

#### **Blade & Half Moon Impellers**

Туре	Blade Size (mm)	Material	Length (mm)	Max rpm	PN
BR 10 Cross-Blade Impeller	50 x 12	Stainless Steel AISI 316Ti	400	2,000	036304390
BR 11 Straight- Blade Impeller	50 x 12	Stainless Steel AISI 316Ti	400	2,000	036300340
BR 12 Pivoting- Blade Impeller	60 x 15	Stainless Steel AISI 316Ti	400	2,000	036300350
BR 13 Square- Blade Impeller	70 x 70	Stainless Steel AISI 316Ti	450	800	036300360
BR 14 Collapsible- Blade Impeller	90 x 10	Stainless Steel AISI 316Ti	400	800	036300370
HR 18 Half-Moon Impeller	65 x 18 x 3	PTFE	350	800	036300460
Radial-Flow Im	pellers				
Туре	Ø Turbine Size (mm)	Material	Length (mm)	Max rpm	PN
TR 20 Radial-Flow Impeller	28	Stainless Steel AISI 316Ti	400	2,000	036300380
TR 21 Radial-Flow Impeller	50	Stainless Steel AISI 316Ti	400	2,000	036300390

#### Anchor-Type Impellers

Туре	Blade Size (mm)	Material	Length (mm)	Max rpm	PN
AR 19 Anchor-Type Impeller	60 x 45 x5	PTFE	350	800	036300450

#### **Propeller-Type Impellers**

These impellers are recommended for applications which require average or high speed and mixing tasks with medium or high viscosity.

Туре	Prop Size (mm)	Material	Length (mm)	Max rpm	PN
PR 39 Pitched- Blade Impeller	75	PTFE	350	800	036300440
PR 30 Pitched- Blade Impeller	58	Stainless Steel AISI 316Ti	400	2,000	036300400
PR 31 Ringed Propeller	33	Stainless Steel AISI 316Ti	400	2,000	036300410
PR 32 Ringed Propeller	45	Stainless Steel AISI 316Ti	400	2,000	036300420
PR 33 Ringed Propeller	66	Stainless Steel AISI 316Ti	400	800	036300430

#### **VISCO JET**®

VISCO JET® Impellers are an all-rounder for low to high viscosity medias. These impellers can reduce your process times while preforming the best mixing results.



VISCO JET® 60 mm Material: Stainless Steel Ø (mm): 60 Speed Range (rpm): 200 - 800 Vessel dia. (mm): 80 -150 PN 036300470



VISCO JET® 80 mm Material: Stainless Steel/Plastic Ø (mm): 80 Speed Range (rpm): 200 - 700 Vessel dia. (mm): 115 - 200 PN 036300480 Plastic PN 036300490



VISCO JET® 120 mm Material: Stainless Steel/Plastic Ø (mm): 120 Speed Range (rpm): 120-500 Vessel dia. (mm): 170 - 300

PN 036300500 Plastic PN 036300510

	Ø (mm)	Material	Speed Range	Vessel Dia. (mm)	PN
VISCO JET® Crack 80	80	Stainless Steel AISI 316Ti	200 -700	115 - 200	036300505
VISCO JET® Crack 120	120	Stainless Steel AISI 316Ti	120 - 500	170 - 300	036300506

### HEI-CONTROL SOFTWARE

For automated and reproducible processes, the simultaneous operation of multiple devices and applications with high viscosities in conjunction with required heat output (e.g. cosmetics). Combine the fastest heat-up times of the Hei-PLATE magnetic stirrers with the power and precision of the Hei-TORQUE Precision.

#### Use the free software to

- Program process parameters
- Read out and save processes in the software
- Load saved settings for reproducible results

### Download the free software at heidolphna.com



### AVA™ SOFTWARE

AVA<sup>™</sup> allows you to take control of your multi-device jacketed reaction systems by automatically logging your process data and allowing for unattended chemistry.



### TECHNICAL SPECIFICATIONS

#### **Overhead Stirrers**

Model	Hei-TORQUE Core	Hei-TORQUE Value 100	Hei-TORQUE Value 200
Power Rating, Motor Input/Output	105/75 W	90/50 W	120/80 W
Number of Speed Gears	1	1	1
Speed Range	20 - 2,000 rpm	10 - 2,000 rpm	10 - 2,000 rpm
Direction of Rotation	_	_	_
Speed Indicator	Digital	Digital	Digital
Operating Panel	Monochrome 2"	Monochrome 2.4"	Monochrome 2.4"
Speed Control	Electronic	Electronic	Electronic
Torque Max	40 Ncm*	100 Ncm*	200 Ncm
Torque Indicator	Symbol	Symbol	Symbol
Overheat Protection	Automatic Cut-Out	Automatic Cut-Out	Automatic Cut-Out
Motor Protection	Temperature Control Software	Temperature Control Software	Temperature Control Software
Viscoisty Max.	10,000 mPas	60,000 mPas	100,000 mPas
Stirring Cap Max	25 L	50 L	50 L
Analog/Digital Interface	_		_
Admissible Session	Continuous Operation	Continuous Operation	Continuous Operation
Counter/Timer	Yes		
Shaft Diameter Max	10.5 mm	10.5 mm	10.5 mm
Dimensions	70 x 195 x 281.5 mm	86 x 247 x 350 mm	86 x 247 x 350 mm
Stay Bar Size (Ø x w)	10.5 mm	10.5 mm	13 x 160 mm
Weight	2.3 kg	4.4	5.1 kg
Permissible Ambient Conditions	5–31 °C at 80 % rel. humidity, 32–40 °C decreasing linearly up to max. 50 % rel. humidity	5–31 °C at 80 % rel. humidity, 32–40 °C decreasing linearly up to max. 50 % rel. humidity	5–31 °C at 80 % rel. humidity, 32–40 °C decreasing linearly up to max. 50 % rel. humidity
Protection Class	IP 42	IP 54	IP 54

Standard supply voltage: 115 V. Other voltags upon request, please specify for order. \* temporary overload 65 Ncm

Model	Hei-Torque Value 400		
Power Rating, Motor Input/ Output	150/90 W		
Number of Speed Gears	2		
Speed Range	10 - 400 rpm 20 - 2,000 rpm		
Direction of Rotation	-		
Speed Indicator	Digital		
Operating Panel	Monochrome 2.4"		
Speed Control	Electronic		
Torque Max	400 Ncm		
Torque Indicator	Symbol		
Overheat Protection	Automatic Cut-Out		
Motor Protection	Temperature Control Software		
Viscoisty Max.	250,000 mPas		
Stirring Cap Max	100 L		
Analog/Digital Interface	-		
Admissible Session	Continuous Operation		
Counter/Timer	-		
Shaft Diameter Max	10.5 mm		
Dimensions	93 x 247 x 350 mm		
Stay Bar Size (Ø x w)	13 x 160 mm		
Weight	5.3 kg		
Permissible Ambient Conditior	5–31 °C at 80 % rel. humidity, as 32–40 °C decreasing linearly up to max. 50 % rel. humidity		
Protection Class	IP 54		

i-TORQUE Precision 100	Hei-TC 200
/50 W	120/180
	1
- 2,000 rpm	10 - 2,0
3	Yes
jital	Digital
lor 3.2"	Color 3
ctronic	Electro
) Ncm	200 Nc
ecise Value	Precise
tomatic Cut-Out	Automa
nperature Control Soft- re	Temper ware
000 mPas	100,00
L	50 L
B and RS 232	USB ar
ntinuous Operation	Countir
3	Yes
5 mm	10.5 mi
x 247 x 350 mm	86 x 24
x 160 mm	10.5 mi
kg	5.1 kg
31 °C at 80 % rel. humidity, -40 °C decreasing linearly to max. 50 % rel. humidity	5–31 °C 32–40 ° up to m
54	IP 54

lei-TORQUE Precision 00				
20/180 W				
0 - 2,000 rpm				
es				
ligital				
Color 3.2"				
lectronic				
00 Ncm				
recise Value				
utomatic Cut-Out				
emperature Control Soft- vare				
00,000 mPas				
0 L				
ISB and RS 232				
Countinuous Operation				
es				
0.5 mm				
6 x 247 x 350 mm				
0.5 mm				
.1 kg				
–31 °C at 80 % rel. humidity, 2–40 °C decreasing linearly p to max. 50 % rel. humidity				
° 54				

150	0/90 W
2	
	- 400 rpm - 2,000 rpm
-	
Dig	jital
Со	lor 3.2"
Ele	ctronic
400	0 Ncm
Pre	ecise Value
Au	tomatic Cut-Out
Ter wa	nperature Control Soft- re
250	0,000 mPas
100	) L
US	B and RS 232
Со	ntinuous Operation
Yes	3
10.	5 mm
93	x 247 x 350 mm
10.	5 mm
5.3	kg
32-	31 °C at 80 % rel. humidit -40 °C decreasing linear to max. 50 % rel. humidit

Hei-TORQUE Precision

IP 54



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