

# Multifunctional individualists



# Don't compromise

**Heidolph Premium Laboratory Equipment stands for reliability, precision, and efficiency. Your demand drives us to provide the fastest service, individual support, and quality without compromise. This allows you to focus purely on your research, your company, and the millions of people worldwide.**  
**In short: research made easy.**

For us, "Made in Germany" is far more than just a marketing strategy. It is part of our company philosophy.

Our location in Germany allows us to develop and produce reliable laboratory equipment with an average operational lifespan of 10 years or more. For you, this means that every purchase is an investment in the future.

All Heidolph products are developed and manufactured at our Schwabach headquarters in Nuremberg, where they undergo multi-stage quality checks in development and production. Even in continuous operation, our powerful, no-maintenance motors ensure consistent results and prevent downtimes and expensive repairs.

To us, premium service means competent and professional installation and training, the shortest possible repair and delivery times and individual expert advice – simply "research made easy".

## MADE IN GERMANY

**3-year** warranty on all devices and an average operational lifespan of **10 years**

Multi-stage quality checks in development and production

Premium service according to the "research made easy" principle

### Free product-demo!

You can thoroughly test our devices with a non-binding and free demo to ensure that our products meet all your requirements.

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# Hei-VAP Rotary Evaporators

## Developed with users

In close cooperation with users, we developed the Hei-VAP series of rotary evaporators with an emphasis on the essentials: well thought-out details with a focus on features and functions to facilitate everyday laboratory work. Versatile combinations with glassware and extensive accessories offer the right configuration for every application. Perfectly matched peripherals top off the rotary evaporators – complete systems, all from one source. During a personal consultation, we address your individual requirements from best configuration to process optimization by our application specialists – upon request also on site.

This complete package has already convinced two different and independent juries. The new Hei-VAP series was not only voted the most innovative laboratory device of 2019, but also received the Red Dot Design Award for its user-friendly screen design.

Most  
Innovative  
Product



SalesConvention

**LLG**  
AWARD  
2019



reddot winner 2020  
interface design



## Leading Safety Standards

- All Hei-VAP rotary evaporators have a safety heating bath with overheating and dry running protection, ergonomic handles, double wall and an integrated spout
- Universal heating bath for all flask sizes up to 5 l (no retooling required). The sturdy metal connection to the device's base allows variable distances for the heating bath up to 200 mm without tilting
- Digital displays allow continuous monitoring of the current values and, thanks to protection class IP 42, protect the electronics reliably against dripping water and dust
- Separate knobs with intuitive LED ring light system not only allow visual process control, but also direct intervention in the evaporation process at any time
- The locking function of the knobs prevents unintentional adjustment of the values
- Residual heat indicator: When the function is deactivated and in standby mode, flashing and the display of the residual heat warn of the risk of burns (> 50 °C)
- The standby button stops all functions and, when using a motor lift model, lifts the evaporating flask from the heating bath
- In order to prevent short circuits and corrosion systematically, the cable connections of the operating panel and the heating bath comply with the high protection class IP 67
- Additional safety from a single source: From the transparent plastic coating of the glassware to guard shield and guard hood (implosion protection) to IQ-OQ documentation and certification







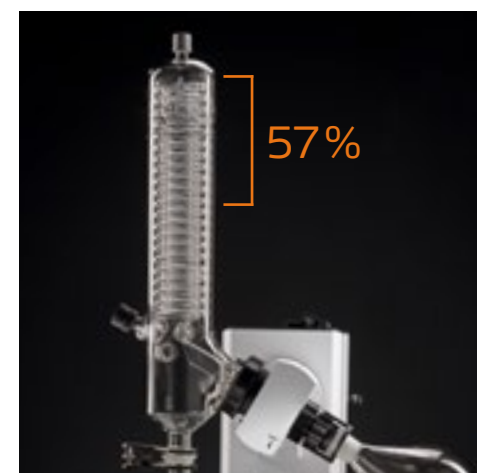
## Superior Ease of Use

- All models are available with hand or motor lift
- The patented flask clamp Easy-Clip facilitates attaching and changing of the evaporating flask. The mechanism gently separates ground glass joints to prevent glass breakage
- The versatile operating concept meets all requirements with digital display or touch display
- Intuitive operation, as all settings are configured centrally on the operating panel. In combination with the Control-Box, the panel can even be used as the central control unit to regulate the vacuum and the Hei-CHILL recirculation chiller as well
- The detachable panel with optional extension cable and holding device allow quick and easy operation even outside closed fume hoods
- Easy ventilation thanks to the ground-free condenser design: The ventilation cap with PTFE inlay and threaded connection avoids stuck glass – without grease. Optionally, a venting valve with refill function is also available
- FDA-compliant materials for all active and passive media-contacting components permit a broader range of application and research at the highest level
- Convenient release for individual adjustment of the angle of inclination from 20° to 80° and height stop to limit the immersion depth up to 160 mm
- The optionally available automatic module Distimatic permits fully automatic distillation in unattended continuous operation



## Reduced Cost of Ownership

- No unnecessary additional costs: The patented clamping sleeve effectively prevents the vapor tube from getting stuck in the drive
- With the patented Easy-Clip's integrated screw thread, stuck evaporating flasks can be released safely and easily
- Ground-free condenser design with grease-free threaded connections
- The highly resistant and particularly durable PTFE vacuum seals achieve maximum tightness and reduce expenses for spare parts in the long run
- The unique tightness of the vacuum system leads to shorter process times, reduced energy costs and purest results
- The universal heating bath is suitable for all flasks up to 5 l, without additional costs for retrofitting
- Even greater efficiency with up to 40 % higher evaporation rates: The intelligent design of the XL condenser provides 57 % more cooling surface at almost the same height as previous standard vertical condensers
- Quality that pays. Corrosion-free die-cast housings with condensation-repellent varnish and maintenance-free motors guarantee unrestricted continuous operation and a long lifespan with significantly lower maintenance costs
- Media-contacting plastic parts such as the screw connection for mounting the condenser and the clamping sleeve on the vapor tube are made of highly resistant PPS to ensure a long lifespan
- Many of the current series' spare and wear parts are forward and backward compatible with earlier models



MADE IN  
GERMANY

All benefits at a glance

# The Hei-VAP control principle

Hei-VAP Expert Control and Ultimate Control allow to centrally control all process parameters: vacuum, cooling temperature, rotation and heating bath temperature.



Hei-VAP Expert Control  
Hei-VAP Ultimate Control

\* A subsequent upgrade is possible: simply connect the "plug-and-play" Control-Box and enjoy all the benefits.

Evaporate with a tap:

- Customizable solvent library
- Automatically find boiling points with Dynamic AUTO<sub>accurate</sub>
- Simply save processes as favorites

3-year warranty on all devices and an average operational lifespan of over 10 years

## Intelligent Evaporation



For unlimited evaporation: In conjunction with the Distimatic automatic module, you can distill indefinitely and automatically in 24 / 7 operation. The affordable alternative to large rotary evaporators.

With standby function and residual heat warning at heating bath temperatures above 50 °C

Metal connection to the device console prevents tilting of the bath

# The Hei-VAP series – one concept for all requirements

## Standard Models

Without vacuum control. For integration into an existing vacuum system or for configuration with optional vacuum controller.



### Hei-VAP Core

- Digital display
- Direct access to rotation and heating bath temperature
- Lock function
- Standby button
- Residual heat warning



### Hei-VAP Expert

- 5" touch display
- Clear display of all values (Basic/Advanced modes)
- Timer
- Max. temperature limitation
- Multilingual menu with text warnings
- Optional display of vapor temperature
- USB and Micro SD interfaces



### Hei-VAP Ultimate

- 7" touch display
- Clear display of all values (Basic/Advanced modes)
- Timer
- Max. temperature limitation
- Multilingual menu with text alerts
- Optional display of vapor temperature
- USB and Micro SD plus LAN/RS 232 interfaces (Lab 4.0 ready)

## Control Models

Including the smart Control-Box. For controlling any connected vacuum sources and the Heidolph chillers directly via the rotary evaporator's operating panel.



### Hei-VAP Expert Control

- Extends the functions of the Hei-VAP Expert by:
- Control of any vacuum sources and Heidolph recirculation chillers
  - Solvent library
  - Favorites memory
  - DAA (see page 16)
  - Ramp programming



### Hei-VAP Ultimate Control

- Extends the functions of the Hei-VAP Ultimate by:
- Control of any vacuum sources and Heidolph recirculation chillers
  - Solvent library
  - Favorites memory
  - DAA (see page 16)
  - Ramp programming



# Hei-VAP Core

## Uncompromising quality and simple handling

An operating concept that is focused on the essentials: clear and with access to the basic parameters rotation speed and heating bath temperature at any time.

- Clear digital display showing actual and set values
- Two separate knobs with dynamic control for setting the rotation speed and heating bath temperature: fast turning for large jumps, slow turning for precise setting of the set values
- Accidental changing of the values can be prevented by the lock function
- Intuitive LED ring light system makes activated functions clearly visible even from a distance
- Easy adjustment of the immersion depth up to 155 mm and the inclination angle from 20° to 80°
- Standby function and residual heat warning at heating bath temperatures above 50 °C
- Available as hand or motor lift models



Hei-VAP Core	hand lift (HL)		motor lift (ML)	
Glassware	standard	coated	standard	coated
G1 Diagonal	571-01100-00	571-01110-00	572-01100-00	572-01110-00
G3 Vertical	571-01300-00	571-01310-00	572-01300-00	572-01310-00
G3 XL-Vertical	571-01305-00	571-01315-00	572-01305-00	572-01315-00
G5 Dry ice condenser	571-01500-00	571-01510-00	572-01500-00	572-01510-00
G6 Vertical for reflux	571-01600-00	571-01610-00	572-01600-00	572-01610-00



The standby button stops all functions and, when using a motor lift model, lifts the evaporating flask from the heating bath.

**Hei-VAC Control**  
The optional digital vacuum controller for accurate vacuum control of house vacuum systems or any other valve-regulated vacuum pump.

# Hei-VAP Expert / Ultimate

With a clear 5" and 7" touch display

Always have a clear view of all values with the Hei-VAP Expert

- Central operating panel with 5" touch display
- Clear display of all values (Basic and Advanced modes)
- With timer, limitation of max. temperature, multilingual menu and text display for error messages
- Separate knobs for rotation and heating with locking function to prevent accidental readjusting
- LED ring lights and pictogram to display the activity even from a distance
- Integrated solvent library to facilitate adjustment of the required vacuum on an external vacuum controller
- USB and Micro SD interfaces
- Optional display of vapor temperature

Subsequent upgrade to Hei-VAP Expert Control possible, including vacuum and chiller control



Precise setting of rotation speed and heating bath temperature on the digital touch display or – for quick access during an active process – directly via the knobs on the operating panel.



Hei-VAP Expert	hand lift (HL)		motor lift (ML)	
	standard	coated	standard	coated
G1 Diagonal	573-01100-00	573-01110-00	574-01100-00	574-01110-00
G3 Vertical	573-01300-00	573-01310-00	574-01300-00	574-01310-00
G3 XL-Vertical	573-01305-00	573-01315-00	574-01305-00	574-01315-00
G5 Dry ice condenser	573-01500-00	573-01510-00	574-01500-00	574-01510-00
G6 Vertical for reflux	573-01600-00	573-01610-00	574-01600-00	574-01610-00



- Hei-VAP Ultimate** differs from the Hei-VAP Expert:
- Central operating panel with 7" touch display
  - USB and Micro SD plus LAN / RS 232 interfaces (Lab 4.0 ready)

Hei-VAP Ultimate	hand lift (HL)		motor lift (ML)	
	standard	coated	standard	coated
G1 Diagonal	575-01100-00	575-01110-00	576-01100-00	576-01110-00
G3 Vertical	575-01300-00	575-01310-00	576-01300-00	576-01310-00
G3 XL-Vertical	575-01305-00	575-01315-00	576-01305-00	576-01315-00
G5 Dry ice condenser	575-01500-00	575-01510-00	576-01500-00	576-01510-00
G6 Vertical for reflux	575-01600-00	575-01610-00	576-01600-00	576-01610-00



# Hei-VAP Expert Control / Ultimate Control

## Central control unit for uncompromising precision

Adds numerous smart features to the Hei-VAP Expert, as well as an overview of all parameters and the current process

### Hei-VAP Expert Control

- 5" touch display for controlling the entire system including the vacuum and the cooling temperature
- For precise monitoring, the pictogram on the display also symbolizes active functions
- Separate knobs for quick access: the right one for direct vacuum control, the left one for the rotation
- Setting of values either via the touch display or the separate quick access knobs
- Direct access to two favorites on the start screen
- Expandable solvent library. You can also transfer your own favorites to other devices using a USB stick
- Define and save own evaporation processes (ramps)
- Automatically evaporate with the Dynamic AUTO<sub>accurate</sub> Program (DAA). Convenient and customizable: from foam avoidance to highly efficient evaporation
- With USB and Micro SD interface for easy installation of software updates and transfer of individual favorites from one device to another



Central control panel for direct regulation of any vacuum source – in conjunction with a Hei-CHILL recirculation chiller also the cooling temperature. With solvent library, favorites, individual ramps and smart program automations.



### Hei-VAP Ultimate Control

differs from the Hei-VAP Expert Control:

- 7" touch display for controlling the entire system including the vacuum and the cooling temperature
- USB and Micro SD plus LAN / RS 232 interfaces (Lab 4.0 ready)



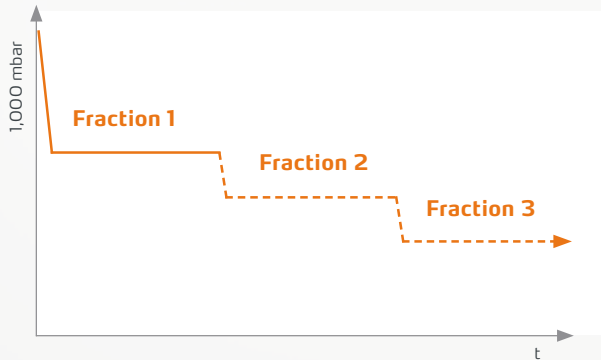
Hei-VAP Expert Control	hand lift (HL)		motor lift (ML)	
Glassware	standard	coated	standard	coated
G1 Diagonal	573-02100-00	573-02110-00	574-02100-00	574-02110-00
G3 Vertical	573-02300-00	573-02310-00	574-02300-00	574-02310-00
G3 XL-Vertical	573-02305-00	573-02315-00	574-02305-00	574-02315-00
G5 Dry ice condenser	573-02500-00	573-02510-00	574-02500-00	574-02510-00
G6 Vertical for reflux	573-02600-00	573-02610-00	574-02600-00	574-02610-00

Hei-VAP Ultimate Control	hand lift (HL)		motor lift (ML)	
Glassware	standard	coated	standard	coated
G1 Diagonal	575-02100-00	575-02110-00	576-02100-00	576-02110-00
G3 Vertical	575-02300-00	575-02310-00	576-02300-00	576-02310-00
G3 XL-Vertical	575-02305-00	575-02315-00	576-02305-00	576-02315-00
G5 Dry ice condenser	575-02500-00	575-02510-00	576-02500-00	576-02510-00
G6 Vertical for reflux	575-02600-00	575-02610-00	576-02600-00	576-02610-00

# Save time with the automated process control

## Automatic evaporation with Dynamic AUTO<sub>accurate</sub> (DAA)

- The boiling points of one or more fractions are identified through the steam temperature gradation of the mixture during continuous automatic pressure control
- You can freely set whether one or more fractions are to be distilled. The vacuum control is fully automated for each fraction
- You can control the evaporation speed by adjusting the ratio of steam temperature to cooling temperature



The DAA allows you to start a fully automated distillation process already during the heat-up phase of the heating bath. The system vacuum is dynamically adjusted to the changing heating bath temperatures until the heating bath has reached its defined temperature.

- Samples are distilled precisely
- Automation with sensors ensures noticeably higher precision
- To protect your sample, motor lift models automatically remove the evaporating flask from the heating bath at the end of the process

**System requirements:**  
The automatic process control requires a Hei-VAP Expert Control or Hei-VAP Ultimate Control model with the AUTO<sub>accurate</sub>-sensor as well as the configuration with compatible glassware (G3, G3 XL or G6).



## Favorites and ramps

- Solvent library with pre-set, customizable processes and solvents. Can be saved as a favorite at any time, also directly on the start screen
- Evaporate with a tap: the smart DAA program
- Individual settings: adjust hysteresis (from gentle to highest performance), limit max. pressure or temperature, multilingual menu with format settings, various calibrations, assign heating temperature or vacuum to right knob

# Packages

## Hei-VAP Core



### BASIC

- Hei-VAP Core HL G3
- Rotavac Valve Tec
- Manual vacuum controller
- Tubing set

P/N 571-34300-00

Allround Chill Package

### ALLROUND

- Hei-VAP Core HL G3
- Hei-VAC Control
- Rotavac Valve Tec
- Tubing set

P/N 571-20300-00

### UNIVERSITY ACADEMIC

- Hei-VAP Core HL G1
- Rotavac Valve Tec
- Manual vacuum controller
- Tubing set

P/N 571-24100-00

### ADVANCED EVAPORATION

- Hei-VAP Core ML G3
- Rotavac Vario Pumping Unit
- Tubing set

P/N 572-36300-00

### ALLROUND CHILL

- Hei-VAP Core HL G3
- Hei-VAC Control
- Rotavac Valve Tec
- Hei-CHILL 250
- Tubing set
- Kryo 30 (10l)

P/N 571-21300-00

### UNIVERSITY ACADEMIC-CHILL

- Hei-VAP Core HL G1
- Rotavac Valve Tec
- Manual vacuum controller
- Hei-CHILL 250
- Tubing set
- Kryo 30 (10l)

P/N 571-25100-00

### LOW BOILING DRY ICE

- Hei-VAP Core ML G5B
- Rotavac Valve Tec
- Manual vacuum controller
- Tubing set

P/N 572-31550-00

# Packages

## Hei-VAP Expert Control



### TWIN VAP

- 2x Hei-VAP Expert Control ML G3
- Rotavac Valve Control
- 2x Vacuum valve
- Hei-CHILL 1200
- 2x Tubing set
- Kryo 30 (20l)
- 2x Non-return valve
- 2x Y-Piece

P/N 574-29300-00

# Packages

## Hei-VAP Ultimate Control



### UNIVERSITY RESEARCH

- Hei-VAP Ultimate Control ML G3 XL
- Rotavac Vario Control
- Tubing set

P/N 576-26305-00

### REACTION/ EXTRACTION

- Hei-VAP Expert Control ML G6
- Rotavac Vario Tec
- Vapor temperature sensor
- Tubing set

P/N 574-22600-00

### POWDER DRYING

- Hei-VAP Expert Control ML G3
- Rotavac Valve Control
- Vacuum valve
- Tubing set
- Powder flask 2l
- Vapor tube with powder filter

P/N 574-32300-00

### AUTOMATIC EVAPORATION

- Hei-VAP Expert Control ML G3
- Rotavac Vario Tec
- Condenser for Rotavac Vario
- Tubing set
- Woulff bottle
- AUTO<sub>accurate</sub>-sensor

P/N 574-37300-00

### UNIVERSITY RESEARCH-CHILL

- Hei-VAP Ultimate Control ML G3 XL
- Rotavac Vario Control\*
- Hei-CHILL 600
- RS 232 cable
- Tubing set
- Kryo 30 (10l)

P/N 576-27305-00

### REACTION/ EXTRACTION-CHILL

- Hei-VAP Expert Control ML G6
- Rotavac Vario Tec
- Vapor temperature sensor
- Hei-CHILL 350
- RS 232 cable
- Tubing set
- Kryo 30 (10l)

P/N 574-23600-00

### POWDER DRYING-CHILL

- Hei-VAP Expert Control ML G3
- Rotavac Valve Control
- Vacuum valve
- Hei-CHILL 600
- RS 232 cable
- Tubing set
- Powder flask 2l
- Vapor tube with powder filter
- Kryo 30 (10l)

P/N 574-33300-00

### AUTOMATIC EVAPORATION PLUS

- Hei-VAP Expert Control ML G3B
- Rotavac Vario Control
- Condenser for Rotavac Vario
- Tubing set
- Woulff bottle
- AUTO<sub>accurate</sub>-sensor

P/N 574-38310-00



University Research-Chill Package



# Technical specifications

## Rotary Evaporators

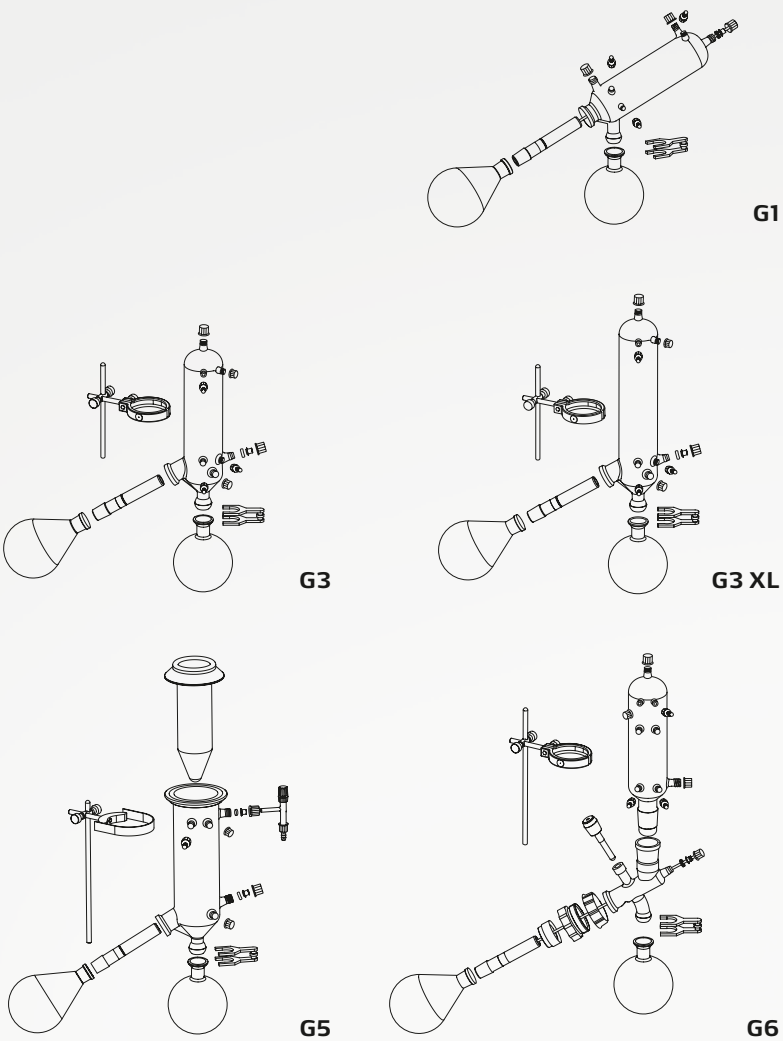
Model	Hei-VAP Core (HL)	Hei-VAP Core (ML)	Hei-VAP Expert (HL/ML)	Hei-VAP Ultimate (HL/ML)	Hei-VAP Expert Control (HL/ML)	Hei-VAP Ultimate Control (HL/ML)
Lift	hand lift	motor lift	hand lift / motor lift	hand lift / motor lift	hand lift / motor lift	hand lift / motor lift
Height adjustment speed	manual	30 mm/s	manual / 30 mm/s	manual / 30 mm/s	manual / 30 mm/s	manual / 30 mm/s
Height adjustment	155 mm	155 mm	155 mm	155 mm	155 mm	155 mm
Rotation speed	10–280 rpm	10–280 rpm	10–280 rpm	10–280 rpm	10–280 rpm	10–280 rpm
Rotation speed indicator	3.5" LCD display	3.5" LCD display	5" LCD color graphic display	7" LCD color graphic display	5" LCD color graphic display	7" LCD color graphic display
Drive	brushless DC motor with electronic speed control		brushless DC motor with electronic speed control			
Heating capacity	1,300 W	1,300 W	1,300 W	1,300 W	1,300 W	1,300 W
Temp. range heating bath	20–210 °C	20–210 °C	20–210 °C	20–210 °C	20–210 °C	20–210 °C
Temperature accuracy bath	±1 °C	±1 °C	±1 °C	±1 °C	±1 °C	±1 °C
Overheat protection bath	cut-off at 5 °C over set temperature via separate Pt 1000		cut-off at 5 °C over set temperature via separate Pt 1000			
Secondary overtemp. cut-off	250 °C	250 °C	250 °C	250 °C	250 °C	250 °C
Bath temperature setting	3.5" LCD display	3.5" LCD display	5" LCD color graphic display	7" LCD color graphic display	5" LCD color graphic display	7" LCD color graphic display
Heating bath temperature control	electronic / digital	electronic / digital	electronic / digital	electronic / digital	electronic / digital	electronic / digital
Material heating bath	stainless steel AISI 316 L	stainless steel AISI 316 L	stainless steel AISI 316 L	stainless steel AISI 316 L	stainless steel AISI 316 L	stainless steel AISI 316 L
Diameter heating bath	255 mm	255 mm	255 mm	255 mm	255 mm	255 mm
Volume heating bath	4.5 l	4.5 l	4.5 l	4.5 l	4.5 l	4.5 l
Max. size evaporating flask	5 l	5 l	5 l	5 l	5 l	5 l
Display vapor temperature required accessories	–	–	yes vapor temperature sensor	yes vapor temperature sensor	yes vapor temperature sensor	yes vapor temperature sensor
Integrated Vacuum controller	–	–	–	–	yes	yes
Integrated Hei-CHILL controller	–	–	–	–	yes	yes
Timer	–	–	yes	yes	yes	yes
Vacuum program DAA mode requires AUTO <sub>accurate</sub> -sensor	–	–	–	–	yes	yes
Programmable ramps	–	–	yes	yes	yes	yes
Supply power	1,400 W	1,400 W	1,400 W	1,400 W	1,400 W	1,400 W
Weight w/o glassware assembly	16 kg	16 kg	16 kg	16 kg	16 kg	16 kg
Dimensions with glassware set G3 max. w/d/h	739×477×845 mm		739×477×845 mm			
Dimensions with glassware set G3 XL max. w/d/h	739×477×920 mm		739×477×920 mm			
Condensing surface	1,400 cm²	1,400 cm²	1,400 cm²	1,400 cm²	1,400 cm²	1,400 cm²
Condensing surface XL condenser	2,200 cm²	2,200 cm²	2,200 cm²	2,200 cm²	2,200 cm²	2,200 cm²
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			
Protection class <sup>1</sup> DIN EN 60529	IP 20		IP 20			

Standard supply voltage: 230 V. Other voltages upon request, please specify for order.

<sup>1</sup> IP 67 for heating bath cable connections, IP 42 for operating panels and Control-Box

Glassware

- Glassware set includes one 1,000-ml-evaporating flask and one 1,000-ml-receiving flask
- Evaporating flasks and vapor tube come standard with 29/32 joint size and are also available with 24/29 ground joints
- Ventilation cap without ground joints for easy handling and grease-free operation included
- A venting valve with refill function is optionally available
- G3/G3 XL or G6 glassware required for using DAA on Hei-VAP Expert/Ultimate Control models
- All glassware also available with transparent plastic coating (for temperature ranges up to max. 80 °C)



**Glassware set G1**  
Diagonal condenser for all standard distillations; the option with the most affordable price

**Glassware set G3**  
Vertical condenser for all standard distillations; the option with the smallest space requirements

**Glassware set G3 XL**  
Up to 40 % higher evaporation rate thanks to 2,200 cm² of cooling surface

**Glassware set G5**  
Dry ice condenser for low-boiling solvents

**Glassware set G6**  
Vertical condenser; centerpiece with valve for reflux distillation

Evaporation rate¹	Toluene	Acetone	Ethanol	Isopropanol (IPA)	Water
G3 Vertical	6.5 l/h	6.0 l/h	2.5 l/h	4.0 l/h	1.4 l/h
G3 XL-Vertical	8.5 l/h	7.5 l/h	3.5 l/h	4.9 l/h	1.4 l/h
Improvement with XL-Condenser	31 %	25 %	40 %	23 %	system limit reached with 1.4 l/h

¹ With maximum condenser efficiency

Accessories



Evaporating flask	NS 29/32	NS 24/29
50 ml	514-70000-00	514-70000-01
100 ml	514-71000-00	514-71000-01
250 ml	514-72000-00	514-72000-01
500 ml	514-73000-00	514-73000-01
1,000 ml	514-74000-00	514-74000-01
2,000 ml	514-75000-00	514-75000-01
3,000 ml	514-76300-00	514-76300-01
5,000 ml	514-78000-00	514-78000-03

Receiving flask	standard	coated
100 ml	514-81000-00	514-81000-02
250 ml	514-82000-00	514-82000-02
500 ml	514-83000-00	514-83000-02
1,000 ml	514-84000-00	514-84000-02
2,000 ml	514-85000-00	514-85000-02
3,000 ml	514-87000-00	514-87000-02

Powder flask	NS 29/32	NS 24/29
500 ml	514-73200-00	514-73200-01
1,000 ml	514-74200-00	514-74200-01
2,000 ml	514-75300-00	514-75300-01

Spider NS 14.5	NS 29/32	NS 24/29
With 6 distillation sleeves à 20 ml	15-300-005-09	15-300-005-12
With 12 distillation sleeves à 20 ml	15-300-005-10	15-300-005-13
With 20 distillation sleeves à 20 ml	15-300-005-11	15-300-005-06

Spider NS 24	NS 29/32	NS 24/29
With 5 flasks à 50 ml	15-300-005-04	15-300-005-08
With 5 flasks à 100 ml	15-300-005-07	15-300-005-05

Evaporating cylinder	NS 29/32	NS 24/29
500 ml	514-00070-00	514-00070-01
1,500 ml	514-00071-00	514-00071-01

Foam brake	NS 29/32	NS 24/29
Foam brake with flask clamp	514-00004-00	514-00005-00

Standard joint size: NS 29/32 (NS 24/29 ground joints available on request)

# Accessories



**Guard hood**

Strong and transparent guard hood to protect from implosions; provides easy and immediate access to flask and bath; application range up to 130 °C

P/N 569-00010-00



**Guard shield**

Strong and transparent guard shield to protect from implosions; provides easy and immediate access to flask and bath

P/N 569-00020-00



■

Automatically stops the water supply as soon as the rotary evaporator is switched off. Prevents excessive water consumption and water damage and also reduces costs

P/N 569-00500-00



**Ventilation and replenishment valve**

Ground-free, for precise refilling during the process. With ventilation function

P/N 514-51100-00



**Extension cable**

Allows quick and easy operation even outside closed fume hoods, length 1.5 m

P/N 14-300-020-12



**Holding device**

For all Hei-VAP operating panels: can be positioned next to the device or on the wall

P/N 569-01000-00



**Spare vapor tube**

Standard joint size: NS 29/32 (NS 24/29 ground joints available on request)

P/N 514-00000-01

**Spare clamping sleeve**

P/N 23-30-01-05-31



**Tubing**

Tubing set with 12 m tube and hose clamp for vacuum and water connection

P/N 591-35000-00

**Tubing by meter (individual length)**

P/N 591-33000-01



**Vacuum seal PTFE/FFKM**

Special PTFE seal (with FFKM sealing ring), highest chemical resistance, long lifespan without abrasion, highest density, FDA-compliant

P/N 23-30-01-06-70

**Standard PTFE/FKM spare seal**

P/N 23-30-01-01-30



**Woulff bottle**

For separating condensate to protect the valves of the vacuum pump, standard vacuum laboratory bottles can be used. Screw connection for easy emptying and cleaning, compatible with all Hei-VAP configurations, volume of 200 ml

P/N 569-00071-00



**Vacuum valve**

Required for Hei-VAP Control models with valve-controlled vacuum pump. Can be positioned for easy access and cleaning. Not required for manual vacuum control

P/N 569-00065-00



**Switchbox**

**Connect up to three rotary evaporators to one vacuum pump**

If no vacuum is required or when the required vacuum has been reached, the pump is switched off automatically. Prevents excess energy consumption. For applications with different pressure settings, each evaporator must be equipped with vacuum valve and non-return valve. Delivery includes three non-return valves. Suitable only for Hei-VAP Control models

Weight 0.6 kg, w/d/h 80×45×160 mm

P/N 569-00400-00



**Heating bath liquid**

Heating bath liquid up to 170 °C (5 l)

P/N 515-31000-0

**Up to 220 °C (5 l)**

P/N 569-00600-0



**AUTOaccurate-sensor**

For Hei-VAP Expert Control and Hei-VAP Ultimate Control. Only in combination with glassware set G3, G3 XL or G6

P/N 569-00040-00



**Vapor temperature probe**

For Hei-VAP Expert and Hei-VAP Ultimate as well as Control models

P/N 569-00030-00

## UPGRADE



**Control-Box**

Subsequent upgrade for Hei-VAP Expert and Hei-VAP Ultimate models with Control function and the ability to control peripheral devices (vacuum and Hei-CHILL recirculation chiller)

P/N 569-00200-00



# Vacuum controller

## Manual vacuum controller

### The cost-effective variant for vacuum control

- Control the house vacuum or any other vacuum source manually
- Pressure range from 0 to 1,020 mbar in 50 mbar increments
- Connection for tubes with 8 mm inner diameter
- Support rod for mounting of the controller on the evaporator included
- A vacuum valve is not required
- W/d/h 80×80×150 mm

P/N 591-26000-00



# Vacuum pumps

## Valve-regulated vacuum pumps

- All components that come in contact with media are made from chemically resistant fluoropolymer
- The durable PTFE design guarantees a superior diaphragm lifespan
- Head cover and clamping disc have a stable core made from metal that offers unsurpassed long-term performance
- The direct pump drive (without belt) has no wear parts, is exceptionally quiet and creates a very low vibration environment
- The physically optimized gas ballast valve prevents from condensate collecting in the pump

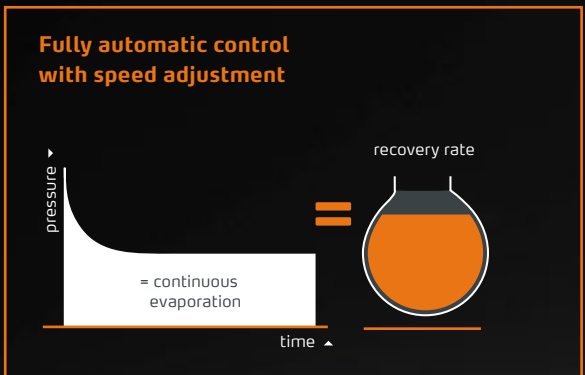


## Hei-VAC Control

### For accurate vacuum control of house vacuum systems or valve-regulated vacuum pumps

- Entry-level model for digital vacuum control
- Easy installation on the evaporator's condenser shaft or as stand-alone device with base next to the evaporator unit
- Manual vent button to prevent foaming
- Graphs to display the entire vacuum process
- RS 232 interface
- Multilingual menu navigation
- Compatible with all Hei-VAP Evaporators which do not have an integrated vacuum control
- Vacuum controller complete with integrated ceramic diaphragm vacuum sensor, regulation valve and venting valve (control valve included in delivery). Ready for use, with wall power supply and user manual

P/N 591-00360-00

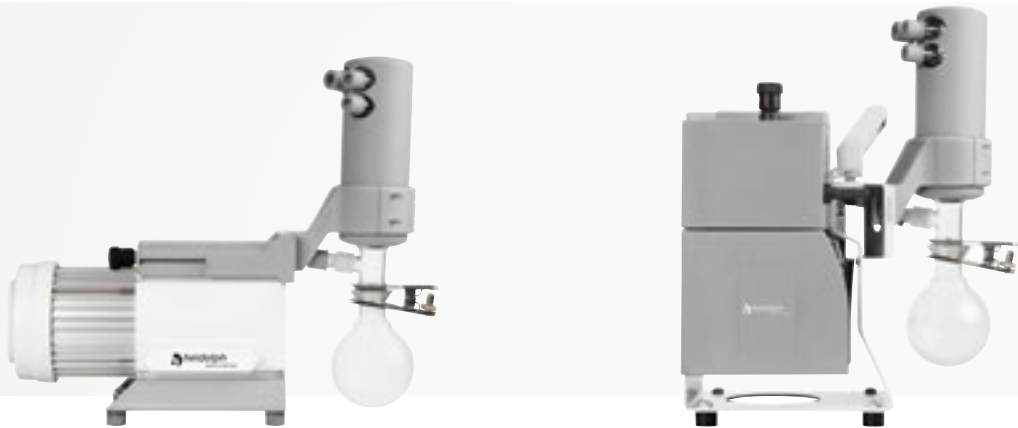


## Rpm-regulated vacuum pumps

- Highest distillation rates possible and reducing process time by 30 %
- Solvent recovery of up to 99 %
- Once the required vacuum is reached, the pump automatically stops and reliably keeps the vacuum at the desired level
- Minimized runtime saves energy and significantly increases the lifespan of the diaphragm
- These pumps guarantee minimum noise and vibrations during operation
- Rpm-regulated pumps achieve the most precise vacuum



Valve-regulated vacuum pumps



Rotavac Valve Tec

For all Hei-VAP models

- Recommended for solvents with low or medium boiling points
- Vacuum can be controlled through valves or manual vacuum controllers
- A vacuum valve is necessary if you wish to combine this vacuum pump with Hei-VAP Expert Control/Ultimate Control rotary evaporators

P/N 591-00160-00

Rotavac Valve Control

For all Hei-VAP models

- Suction capacity for up to three rotary evaporators at the same time
- Vacuum can be controlled through valves or manual vacuum controllers
- Depending on your application, you can use the Switchbox to turn the vacuum pump on and off
- A vacuum valve is required to combine this vacuum pump with Hei-VAP Expert Control/Ultimate Control rotary evaporators

P/N 591-00130-00

Condenser

P/N 591-00083-00

	Rotavac Valve Tec	Rotavac Valve Control
Diaphragm pump	two-stage	two-stage
Suction capacity	0.75 m³/h	2.0 m³/h
Ultimate vacuum	12 mbar	7 mbar
Combinable with condensor	yes	yes
Power input	80 W	180 W
Weight	6.0 kg	12.8 kg
Dimensions without condenser	w/d/h145×315×185 mm	195×245×310 mm

Rpm-regulated vacuum pumps



Rotavac Vario Tec

For Hei-VAP Expert Control/  
Ultimate Control models  
(direct control via rotary evaporator)

- Recommended for solvents with low or medium boiling points

P/N 591-00171-00

Rotavac Vario Control

For Hei-VAP Expert Control/  
Ultimate Control models  
(direct control via rotary evaporator)

- Even if the gas ballast valve is open, an excellent ultimate vacuum is reached when working with easily condensable vapors
- This makes distilling high boiling point solvents such as DMF or DMSO possible at low heating bath temperatures

P/N 591-00141-00

Rotavac Vario Pumping Unit

For Hei-VAP Core models

- Fully adjustable, stand-alone pumping unit including vacuum pump and vacuum controller
- Precise vacuum control prevents bumping and loss of your samples
- Thanks to the automatic vacuum supply to the process parameters, you have more time for important laboratory activities

P/N 591-00142-00

Condenser

P/N 591-00084-00

	Rotavac Vario Tec	Rotavac Vario Control	Rotavac Vario Pumping Unit
Diaphragm pump	two-stage	three-stage	three-stage
Suction capacity	1.0 m³/h	1.7 m³/h	1.7 m³/h
Ultimate vacuum	12 mbar	2 mbar	5 mbar
Combinable with condensor	yes	yes	yes
Power input	160 W	160 W	160 W
Weight	4.3 kg	5.4 kg	6.0 kg
Dimensions without condenser	w/d/h156×236×196 mm	167×236×196 mm	193×299×299 mm

# Recirculating Chillers

The Hei-CHILL models with cooling capacities from 250 to 1,200 W are specifically designed for reliable continuous operation in the laboratory. The magnetic coupling of the pump and the electric motor prevents leakages.

## Easy to use

- Clearly arranged control elements, large LED display, membrane keypad and window for monitoring the thermal fluid level
- With a large coolant reservoir to compensate for peak performance during the evaporation process



### Hei-CHILL 250

The compact design fits effortlessly on a laboratory bench, cooling capacity at 250 W

P/N 591-01600-00

### Hei-CHILL 350

The compact design fits effortlessly on a laboratory bench, cooling capacity at 350 W

P/N 591-01610-00

### Hei-CHILL 600

With rollers for placement under a lab bench, cooling capacity at 600 W

P/N 591-01620-00

### Hei-CHILL 1200

With rollers for placement under a lab bench, cooling capacity at 1,200 W

P/N 591-01630-00



## Accessories

### Kryo 30 liquid

Non-flammable thermal fluid for Hei-CHILL recirculating chillers, 10 l

P/N 569-00611-00

20 l

P/N 569-00610-00

### RS 232 cabel

To connect a Hei-CHILL to a Hei-VAP Expert Control/Ultimate Control

P/N 14-007-040-72



(No image)

### Enforced cooling tube

For cooling, inside Ø 9 mm, sold by the meter, for operating temps of -20 to +60 °C

P/N 591-38000-00



Technical specifications

Chillers

Model	Hei-CHILL 250	Hei-CHILL 350	Hei-CHILL 600	Hei-CHILL 1200
Weight	28 kg	36 kg	52 kg	64 kg
Display	7-segment, LED	7-segment, LED	7-segment, LED	7-segment, LED
Temperature range	-10 – +40 °C	-10 – +40 °C	-10 – +40 °C	-10 – +40 °C
Thermal fluid fill volume	2–4 l	4–7 l	4–8 l	7–14 l
Cooling capacity at +20 °C (20 °C ambient temp.)	250 W	350 W	600 W	1,200 W
Cooling capacity at 0 °C (20 °C ambient temp.)	150 W	200 W	360 W	750 W
Cooling capacity at -10 °C (20 °C ambient temp.)	90 W	120 W	150 W	400 W
Temperature accuracy	±0.5K	±0.5K	±0.5K	±0.5K
Digital interface	RS 232	RS 232	RS 232	RS 232
Noise level	< 70 dB(A)	< 70 dB(A)	< 70 dB(A)	< 70 dB(A)
Ambient temperature range (storage)	5–40 °C	5–40 °C	5–40 °C	5–40 °C
Pump pressure max.	0.35 bar	0.35 bar	1.3 bar	1.3 bar
Pump flow max.	9 l/min	9 l/min	20 l/min	20 l/min
Overvoltage category	II	II	II	II
Alarm output connection	max. 30 V DC, 0.2 A	max. 30 V DC, 0.2 A	max. 30 V DC, 0.2 A	max. 30 V DC, 0.2 A
Contamination level	2	2	2	2
Distance to surroundings (front and rear)	40 cm	40 cm	40 cm	40 cm
Classification according to DIN 12876-1	I/NFL	I/NFL	I/NFL	I/NFL
Refrigerant	R-134a	R-134a	R-134a	R-134a
GWP (100a) according to IPCC IV	1430	1430	1430	1430
Transportation temperature range	-20 – +60 °C	-20 – +60 °C	-20 – +60 °C	-20 – +60 °C
Cooling	Air-cooled	Air-cooled	Air-cooled	Air-cooled
Standard supply voltage	230 V (50 Hz) or 115 V (60 Hz)	230 V (50 Hz) or 115 V (60 Hz)	230 V (50 Hz) or 115 V (60 Hz)	230 V (50 Hz) or 115 V (60 Hz)
Rated power intake (230 V/115 V)	230 W/230 W	500 W/ 500 W	700 W/750 W	1,100 W/1,150 W
Cooling output	250 W	350 W	600 W	1,200 W
Dimensions	w/d/h			
	200×350×465 mm	240×400×500 mm	350×512×587 mm	450×582×639 mm
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 % rel. humidity
Protection class	DIN EN 60529			
	IP 32	IP 32	IP 32	IP 32

Large-Scale  
Rotary  
Evaporators



# Hei-VAP Large-Scale Rotary Evaporators

## Leading Safety Standards

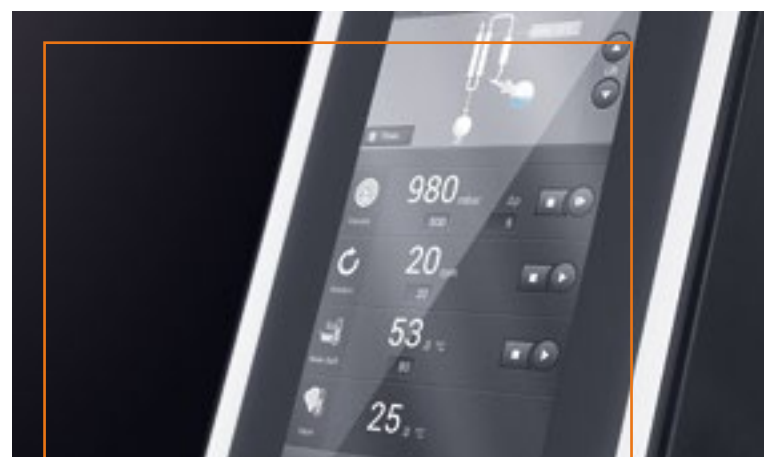
The safety glass in the protective hood of the evaporating flask, and the PMMA safety screens covering the glass set and cassettes of the receiving flask, protect against shards in the event of an implosion. The operating panel displays all safety-relevant functions that must be met at start-up. In the event of excess pressure or excess temperature, the system turns off the relevant functions. A sensor checks the fill level at immersion into the heating bath to prevent overfilling.

## Superior Ease of Use

Intuitive touch display for monitoring all parameters and functions for program-controlled distillation. Can be safely and easily operated by a single person: EASY LOCK flask attachment with adjustable tray for all evaporating flask sizes up to 20 liters, drain valves at the receiving flasks, automatic water bath refill system, and optional fully-maneuverable base cart.

## Reduced Cost of Ownership

The complete glassware and all accessories such as vacuum controller, vacuum valve, vacuum sensor, and vapor temperature sensor are included in delivery. Water or oil – the universal heating bath can be used for both. The unique tightness of the system increases the flow capacity while decreasing energy consumption at the same time.



### Hei-VAP Industrial YOUR BENEFITS

- With integrated vacuum controller and clearly arranged touch display for intuitive definition of all process parameters
- Safety features prevent accidental start-up of the process
- Smart details ensure easy and safe operation even by a single person on their own

**TIP:** Processes can be fully automated in combination with the automatic module Distimatic with automatic residue drainage. For unlimited, continuous distillation during unsupervised continuous operation all day, every day, 24/7.

## Hei-VAP Industrial

### Process large volumes easily and safely

Large scale Hei-VAP rotary evaporators can be operated in batch operations with flask sizes up to 20 liters. The many safety features and easy operation allows for safe user interaction and convenience – even with one operator. Our application consultants can advise you on process optimization techniques as well as configuring a perfect all in one package.



- Change flasks safely and simply with the EASY LOCK flask attachment
- Intuitive touch display with an overview of all parameters
- With timer, ramp function, and two programs for process control: SETpressure and AUTOaccurate
- Fully equipped, including glassware, vacuum controller, vacuum valve, and vacuum and vapor temperature sensor
- Outstanding safety features, both on the housing as well as via the safety features on the touch display
- More time through excellent efficiency – with the automatic module Distimatic, even unsupervised continuous operation is possible all day, every day

**Maximum performance with systems that perfectly complement each other. Discover the Hei-CHILL range at [www.heidolph.com](http://www.heidolph.com)**



## Hei-VOLUME Automatic Modules

### Leading Safety Standards

The automatic module Distimatic allows for the full automation of rotary evaporators from the Hei-VAP range, both for the 5 l benchtop or the 20 l large-scale rotary evaporator. Sensors monitor the complete process and shut down the attached peripheral devices in an emergency. The system can also be operated in closed laboratory hoods.

### Superior Ease of Use

Unlimited amounts in continuous operation, fully automated and unsupervised distillation: with automatic refill, discharge of condensate, and automatic residue drainage for nearly complete separation. Sensor- or time-controlled program automation for automatic distillation and adjustable parameters for exact calibration allow for an extensive range of applications.

### Reduced Cost of Ownership

Maximum efficiency – complete automation of the process saves valuable time. Depending on the selected program, the process is stopped automatically after evaporation of the mixture or after the intervals are complete.

## Hei-VOLUME Distimatic

**Simply smart – automatically process unlimited amounts**

Thanks to the unique automatic residue drainage of the automatic module Distimatic, you can distill unlimited amounts in unsupervised continuous operation. 24 hours a day, 7 days a week. This turns rotary evaporators into automated stations.



### Simple process optimization with regards to efficiency and precision:

- Automatic refill of the base mixture, discharge of the condensate and drainage of residue
- Outstanding evaporation rates in automated, unsupervised continuous operation
- Degree of concentration for final product can be determined to rule out dehydration, crystallization and formation of powder
- Bumping is eliminated by continuously feeding small volumes
- Storage and collecting tanks can be replaced during the process
- Uninterrupted process monitoring through sensors, including complete emergency shut-down of the system

The automatic module Distimatic is compatible with all Hei-VAP rotary evaporators and large-scale rotary evaporators.



# Technical specifications

## Large-Scale Rotary Evaporators

Model	Hei-VAP Industrial	
Rotation speed	6–160 rpm	
Rotation speed setting	digital	
Display	7" touch display	
Lift	motor lift	
Height adjustment speed	45 mm/s	
Height adjustment	180 mm	
Drive	EC-motor	
Heating capacity	4,000 W	
Temperature range heating bath	20–180 °C	
Temperature accuracy	±1 °C	
Overheat cut-off protection	110 (H <sub>2</sub> O) / 210 (oil)	
Bath temperature setting	digital	
Automatic heating bath control	micro processor	
Material heating bath	stainless steel AISI 316 L	
Diameter heating bath	400 mm	
Volume heating bath	24 (H <sub>2</sub> O) / 22 (oil)	
Level regulation of water bath	automatically due to level sensor and refill function	
Display vapor temperature required accessories	digital temperature sensor	
Indicating range vapor temperature sensor	0–200 °C (accuracy 0.1 °C)	
Integrated vacuum controller	yes	
Timer	yes	
Vacuum control program SET <sub>pressure</sub> <sup>2</sup>	yes	
Vacuum control program AUTO <sub>accurate</sub> <sup>2</sup> requires AUTO <sub>accurate</sub> -sensor	yes	
Programmable ramps	yes	
Supply power	4,600 W	
Weight w/o glass assembly	approx. 120 kg	
Dimensionsw / d / h	970 × 690 × 1,600 mm (2,120 mm incl. base cart)	
Rate of evaporation <sup>1</sup> at 40 °C temperature difference	Toluene26.0 l/h Acetone25.9 l/h Ethanol12.9 l/h Water4.7 l/h	
Maximum condensing surface	1.2 m <sup>2</sup>	
Permissible ambient conditions	5–31 °C at 80% rel. humidity, 32–40 °C decreasing linearly up to max. 50% rel. humidity	
Protection class	DIN EN 60529IP 20	

Standard supply voltage: 400 V three-phase current. Other voltages upon request, please specify for order.

<sup>1</sup> Δ T = difference between heating bath temperature and boiling temperature

<sup>2</sup> Only in combination with vacuum systems

# Technical specifications

## Automatic moduls

Model	Distimatic Bench-top without drainage of residue	Distimatic Bench-top including drainage of residue
Compatibility Rotary Evaporators	Hei-VAP and Laborota 4000 series <sup>3</sup>	Hei-VAP and Laborota 4000 series <sup>3</sup>
Separate control panel	yes	yes
Display	digital	digital
Automatic refill of sample	yes	yes
Automatic discharge of condensate	yes	yes
Automatic drainage of residue	–	–
Power input control box	50 VA	50 VA
Noise level	< 80 dB (A)	< 80 dB (A)
Total power multiple switched socket	3,500 W	3,500 W
Weight	5 kg	5 kg
Measurements w/o mounted componentsw / d / h	340 × 135 × 200 mm	340 × 135 × 200 mm
Permissible ambient conditions	5–31 °C at 80% rel. humidity, 32–40 °C decreasing linearly up to max. 50% rel. humidity 0–2,000 m a.s.l., Contamination level 2, Overvoltage category II	5–31 °C at 80% rel. humidity, 32–40 °C decreasing linearly up to max. 50% rel. humidity 0–2,000 m a.s.l., Contamination level 2, Overvoltage category II
Protection class	DIN EN 60529IP 54	IP 54

Model	Distimatic Industrial without drainage of residue	Distimatic Industrial including drainage of residue
Compatibility (Rotary Evaporators)	Hei-VAP Industrial and Laborota 20 series	Hei-VAP Industrial and Laborota 20 series
Separate control panel	yes	yes
Display	digital	digital
Automatic refill of sample	yes	yes
Automatic discharge of condensate	yes	yes
Automatic drainage of residue	–	yes
Power input control box	50 VA	50 VA
Noise level	< 80 dB (A)	< 80 dB (A)
Total power multiple switched socket	3,500 W	3,500 W
Weight	5 kg	5 kg
Measurements w/o mounted componentsw / d / h	340 × 135 × 200 mm	340 × 135 × 200 mm
Permissible ambient conditions	5–31 °C at 80% rel. humidity, 32–40 °C decreasing linearly up to max. 50% rel. humidity 0–2,000 m a.s.l., Contamination level 2, Overvoltage category II	5–31 °C at 80% rel. humidity, 32–40 °C decreasing linearly up to max. 50% rel. humidity 0–2,000 m a.s.l., Contamination level 2, Overvoltage category II
Protection class	DIN EN 60529IP 54	IP 54

All shown values relate on Automatic Module Disitmatic without any external accesory parts.

<sup>3</sup> To check the compatibility please contact your dedicated Heidolph contact person.



#### **WARNING**

Important information for California residents regarding Prop 65.  
Please visit **[www.P65warnings.ca.gov](http://www.P65warnings.ca.gov)** for more information.

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