

DOMINIQ

# Intelligent Evaporation



Leading Safety Standards

Superior Ease of Use

Reduced Cost of Ownership

**heidolph**

research made easy



Do you demand the highest safety standards, perfectly engineered ease of use and reduced cost of ownership?

## Intelligent Evaporation...

... stands for an overheat protection design that prevents water baths running dry, provides a detachable panel for superior ease of use from outside closed fume hoods and offers a proven vacuum seal and vapor tube system guaranteed for years of operation!



## Leading Safety Standards

- Two independent safety circuits **avoid an overheat situation** of your heating bath: If bath temperature overshoots by 5 °C and if your water bath runs dry, heating will be switched off automatically
- To **avoid** an overtemperature situation and potential **thermal damage** to your sample, you can individually pre-program a maximum temperature on the Hei-VAP Precision, at which the bath powers off
- In case of a power cut, all motor lift models will remove the flask from the heating bath **preventing safety hazards** and potential thermal damage to your sample
- To **protect you from splashes and scalding**, the Hei-VAP heating bath features an integrated pour spout to remove bath fluid safely
- Heating bath is constructed with a **double wall** for your protection against burns and scalding
- The **guard hood covers the bath** even if the heating bath is adjusted horizontally to its most extreme limit
- A **metal guide** between the heating bath and the base unit **prevents bath instability**
- To **protect** your heating bath **against short-circuits and systematic corrosion**, the cable coupling complies with the protection class IP 67
- For your protection, the operating panel is located underneath a protective canopy so as to **keep your hands out of the dangerous zone** of rotating flasks, steam and splashing bath fluids
- All heating baths feature **non-slip handles** with safety grip to protect you from scalding bath liquids and allow for easy installation/removal of the bath
- A separate on/off switch for heating **prevents unintentional heat-up**. The button is illuminated for visual control
- In case of an overshoot of any parameter setting, all models will show a **warning on the operating panel**
- Glassware assemblies are optionally available with **transparent plastic safety coating** ensuring ultimate protection while allowing visual control at all times
- IQ-OQ documentation** is available for Hei-VAP models on request

### ➤ Hei-VAP heating bath



#### YOUR ADVANTAGES

- The Hei-VAP heating bath reaches a temperature of 210 °C
- The universal heating bath can even accommodate 5-liter flasks
- The heating bath can be adjusted horizontally up to 200 mm
- To prevent short circuits and corrosion, the cable coupling complies with the protection class IP 67
- Non-slip handles for safe transportation eliminate the risk of scalding
- An integrated pour spout to remove bath fluid safely

## Superior Ease of Use

- The detachable operating panel enables convenient handling from **outside closed fume hoods**
- The universal heating bath can be adjusted horizontally up to 200 mm and offers efficient space to **accommodate even 5-liter flasks**
- The optional automatic module Distimatic Bench-top allows for **continuous and unattended automatic operations**
- The patented evaporating flask **clamp Easy-Clip cannot be lost** due to a connection to the vapor tube coupling ring
- The innovative ventilation and replenishment valves no longer have ground joints, which **enables maximum tightness, grease-free operation and prevents glass breakage**
- All components in direct or indirect contact with the medium are equipped with **FDA-compliant materials for an extended application range**
- The integrated screwed ring allows you to **remove sticking evaporating flasks from the vapor tube just in seconds** in a safe manner
- For your convenience, **the height of 160 mm and the angle of the evaporating flask can be adjusted easily from 20° to 80°**



## Reduced Cost of Ownership

- Achieve up to **40 % higher evaporation rates** due to unique tightness and industry-leading condensing surface with the **XL condenser**
- The high resistant and durable **PTFE vacuum seal achieves maximum tightness** and reduces spare part budgets
- The patented clamping sleeve ensures a **long life performance of the vapor tube**
- Increase your range of applications by using 5-liter flasks in the universal bath at **no additional cost**
- Maintenance-free and non-sparking motors **reduce repairs and down times significantly** to ensure years of continuous operation
- The flange on the condenser side of the drive is made of PPS (Polyphenylene sulfide), a robust industrial-designed resin with **superior chemical resistance** which provides more chemical resistance than stainless steel or welded aluminum. This reduces corrosion to a minimum which results in additional savings on maintenance and replacement components
- Spend your working hours more effectively on other challenges which require your attention and **evaporate large quantities continuously** with the automatic module Distimatic Bench-top
- Maximize your initial investment significantly: the automatic module Distimatic Bench-top is an **affordable and more flexible alternative** to large-scale rotary evaporators
- Reduce your maintenance costs. The sealed housing protects your rotary evaporator from aggressive fumes, liquids and vapors to prevent internal corrosion. This results in an **increased lifespan of 10 years** on average at a reduced maintenance and repair cost

# Intelligent Evaporation

Leading Safety Standards

Superior Ease of Use

Reduced Cost of Ownership

## Vapor tube with patented clamping sleeve



### YOUR ADVANTAGES

- The patented clamping sleeve system allows easy removal of the vapor tube from the drive
- Years of performance life reduce your spare parts budget up to 75 %
- The Hei-VAP vapor tube does not get stuck in the drive, thus eliminating the risk of broken glass
- Immediate removal of the vapor tube from the drive facilitates your work

## Patented flask clamp Easy-Clip



### YOUR ADVANTAGES

- Easy-Clip can't get lost due to a direct connection to the drive
- The integrated screw thread allows an easy removal of sticking flasks
- The Easy-Clip is made of highly resistant synthetic material which ensures a long life performance

## Operating panel



### YOUR ADVANTAGES

- Changing all parameters from outside closed fume hoods guarantees the highest safety level
- Standard for all models is a panel with 1 m cable connection. Thus data security is guaranteed at any time
- Immediate access to the panel ensures ultimate control of the process while increasing your ease of use
- A separate on/off switch for heating prevents unintentional heat-up – the button is illuminated for visual control

The average operational **lifespan of 10 years** is backed by a **3 year warranty** and makes your purchase a worthwhile investment.

Achieve **up to 40 % higher evaporation rates** due to tightness and industry-leading **2,200 cm<sup>2</sup>** condensing surface **with the XL condenser**

New, FDA-compliant, transparent and uv-resistant tubing, with **higher chemical resistance**

The new highly resistant PTFE vacuum seals allow for long lasting constant application and **reduce spare parts budgets**. Also available as FFKM version for application with extremely aggressive solutions

**Superior ease of use** due to the patented Easy-Clip, which provides an **easy removal of sticking flasks** and non-sticking vapor tube with patented clamping sleeve that **eliminates broken glass** and reduces spare parts cost significantly

The innovative ventilation and replenishment valves no longer have ground joints, which enables **maximum tightness, grease-free operation and prevents glass breakage**

**210 °C Safety heating bath** with handles and pour spout will power off if temperature overshoots by 5 °C or runs dry

The detachable operating panel enables **safe and easy handling** from outside closed fume hoods

Bath power cable coupling complies with protection class IP 67 to **prevent corrosion and short circuits**

**For unlimited evaporation:** In conjunction with the automatic module Distimatic Bench-top allows you unlimited and automated distilling in 24/7 operation. An affordable alternative to large-scale rotary evaporators

A separate on/off switch for heating **prevents unintentional heat-up** – the button is illuminated for visual control

A metal guide between the heating bath and the base unit **prevents bath instability**

## ➤ Hei-VAP Value / Hei-VAP Value Digital

### Superior ease of use due to direct control

The Hei-VAP devices with hand lift are optimally suited for all standard applications. Controlling parameters is done so with the simple turn of a knob

- The convenience of large dial controls for adjustment of rotation speed and bath temperature
- **Hei-VAP Value Digital** models come with a digital display for set and actual heating bath temperature



**Hei-VAP Value Digital HL/G3**  
P/N 560-01302-00

| Model                  | Hei-VAP Value hand lift (HL) |              | Hei-VAP Value Digital hand lift (HL) |              |
|------------------------|------------------------------|--------------|--------------------------------------|--------------|
|                        | standard                     | coated       | standard                             | coated       |
| G1 Diagonal            | 560-01100-00                 | 560-01110-00 | 560-01102-00                         | 560-01112-00 |
| G3 Vertical            | 560-01300-00                 | 560-01310-00 | 560-01302-00                         | 560-01312-00 |
| G3 XL Vertical         | 560-01305-00                 | 560-01315-00 | 560-01307-00                         | 560-01317-00 |
| G5 Dry Ice Condenser   | 560-01500-00                 | 560-01510-00 | 560-01502-00                         | 560-01512-00 |
| G6 Vertical for Reflux | 560-01600-00                 | 560-01610-00 | 560-01602-00                         | 560-01612-00 |

## ➤ Hei-VAP Advantage

### Wide range of possibilities for reproducible results

With the Hei-VAP Advantage you have a direct view on all parameter settings and are able to expand your application range

- Available in hand lift or motor lift configurations
- Experience the advantages of our large digital 3.5" LCD display which indicates rotation speed, heating bath and vapor temperature
- Experience the advantages of the automatic process timer which turns off your evaporator at a pre-programmed time and removes evaporating flasks from bath on motor lift models
- Upgrade your Hei-VAP Advantage to a Hei-VAP Precision:



**Hei-VAP Advantage ML/G3 XL**  
P/N 562-01305-00

**Upgrade-KIT Advantage Precision-HL**  
P/N 569-30009-00

**Upgrade-KIT Advantage Precision-ML**  
P/N 569-40009-00

| Model                  | Hei-VAP Advantage hand lift (HL) |              | Hei-VAP Advantage motor lift (ML) |              |
|------------------------|----------------------------------|--------------|-----------------------------------|--------------|
|                        | standard                         | coated       | standard                          | coated       |
| G1 Diagonal            | 561-01100-00                     | 561-01110-00 | 562-01100-00                      | 562-01110-00 |
| G3 Vertical            | 561-01300-00                     | 561-01310-00 | 562-01300-00                      | 562-01310-00 |
| G3 XL Vertical         | 561-01305-00                     | 561-01315-00 | 562-01305-00                      | 562-01315-00 |
| G5 Dry Ice Condenser   | 561-01500-00                     | 561-01510-00 | 562-01500-00                      | 562-01510-00 |
| G6 Vertical for Reflux | 561-01600-00                     | 561-01610-00 | 562-01600-00                      | 562-01610-00 |

## ➤ Hei-VAP Precision

### Maximum capabilities due to integrated vacuum control

The Hei-VAP Precision provides you with the maximum range of parameters, including but not limited to, reproducible applications and fully automated processes. Even solutions with different boiling points can be identified and distilled

- Available in hand lift or motor lift configurations
- Experience the advantages of our large 4.3" color graphic display which features all parameters, integrated vacuum controller and includes programs for automated distillations
- Make your life easier by utilizing the integrated software support which leads you through the capabilities of the evaporator
- For data management Hei-VAP Precision models feature a USB interface
- Save time by configuring the unit - all connected devices will be recognized by the evaporator, which eliminates the need to configure the unit manually
- Now you can manage even the most demanding applications easily and prevent foaming, excessive bubbling or bumping
- Save time with your individualized pre-programmed parameter settings for your 30 most common applications used on a daily basis by saving them in a "Favorites" section
- Each ramp offers 20 separate steps for demanding applications
- Apply an individual name to those ramps to avoid a mix-up
- Experience the advantages of the automatic process timer which turns off your evaporator at a pre-programmed time by raising the flask on motor lift models and releasing vacuum
- Control your process individually by pre-programming vacuum gradients
- Hei-VAP Precision models feature a built-in vacuum controller as a standard



For increased safety all bath temperature adjustments can be limited

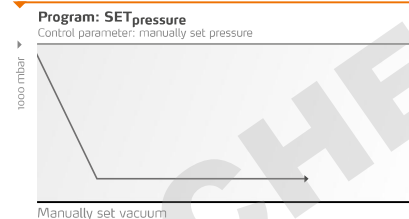
Even from a distance you will be able to monitor the numbers on the display easily

Large color graphic display for all parameters and automated programs

## ➤ Reduce your process times significantly via automated distillation programs

For automated distillation choose between these three programm opportunities:

### SET<sub>pressure</sub>



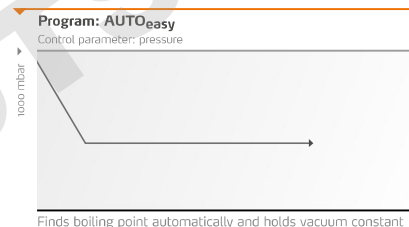
#### Program for solvent separations

This program holds a pre-set vacuum constant. During the evacuation you have the full flexibility to choose another level of vacuum by the press of a button. Optionally, the process can be predefined via programmable ramps

### AUTO<sub>easy</sub>

#### Supports the automatic pressure control for solvent separations

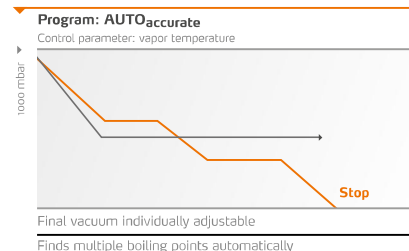
The pressure level for the first boiling point is found automatically. This program can be used with all Heidolph glassware assemblies and does not require any accessories



### AUTO<sub>accurate</sub>

#### Supports very precise automatic pressure control for solvent separations

This program works similar to AUTO<sub>easy</sub> but in addition is able to identify multiple boiling points automatically by reducing vacuum accordingly. Also the AUTO<sub>accurate</sub> program delivers the finest and most precise vacuum control. To take advantage of this program, the optional AUTO<sub>accurate</sub>-sensor is required. This program cannot be used on Heidolph G1 and G5 glassware assemblies. Leading parameter of this program is the vapor temperature



| Model                  | Hei-VAP Precision hand lift (HL) |              | Hei-VAP Precision motor lift (ML) |              |
|------------------------|----------------------------------|--------------|-----------------------------------|--------------|
|                        | standard                         | coated       | standard                          | coated       |
| G1 Diagonal            | 563-01100-00                     | 563-01110-00 | 564-01100-00                      | 564-01110-00 |
| G3 Vertical            | 563-01300-00                     | 563-01310-00 | 564-01300-00                      | 564-01310-00 |
| G3 XL Vertical         | 563-01305-00                     | 563-01315-00 | 564-01305-00                      | 564-01315-00 |
| G5 Dry Ice Condenser   | 563-01500-00                     | 563-01510-00 | 564-01500-00                      | 564-01510-00 |
| G6 Vertical for Reflux | 563-01600-00                     | 563-01610-00 | 564-01600-00                      | 564-01610-00 |

## ➤ Glassware

- Glassware set includes one 1,000-ml evaporating flask and one 1,000-ml receiving flask
- All glassware sets are also available with transparent plastic coating for added safety<sup>1</sup>
- Evaporating flasks and vapor tubes which come with a standard NS 29/32 joint size are also available with NS 24/29 ground joints
- Also available upon request: glassware sets for Soxhlet extraction and descending condenser system
- Innovative ventilation and replenishment valves without ground joints for easy handling and grease-free operation are included
- Glassware sets G3 and G6 allow for the automated distillation program AUTOaccurate on Hei-VAP Precision

## XL Condenser

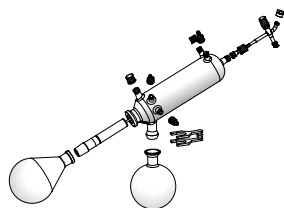
### For maximum evaporation performance

The new XL condenser with industry-leading condensing surface of 2,200 cm<sup>2</sup> achieve up to 40 % higher evaporation rates. Available in G3XL, G3B XL and G9<sup>2</sup> XL versions



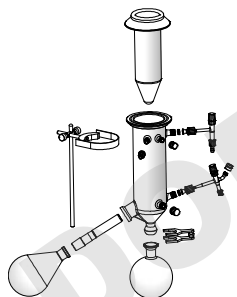
## Glassware set G1

- Diagonal condenser for all standard distillations; the option with the **most affordable price**



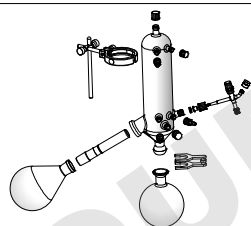
## Glassware set G5

- **Dry Ice** condenser for low-boiling solvents



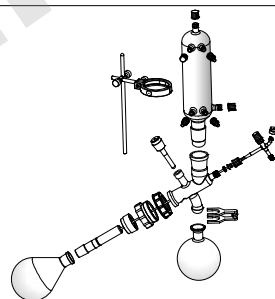
## Glassware set G3/G3 XL

- Vertical condenser for all standard distillations; the option with the smallest space requirements, also available as XL version



## Glassware set G6

- Vertical condenser; centerpiece with valve for **reflux distillation**



## ➤ Accessories



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

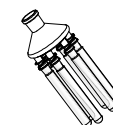
\* Evaporating flask NS 14,5 incl. adaptor (NS 29 or NS 24)



| Receiving flasks                   | standard     | coated       |
|------------------------------------|--------------|--------------|
| Receiving flask - S 35/20 100 ml   | 514-81000-00 | 514-81000-02 |
| Receiving flask - S 35/20 250 ml   | 514-82000-00 | 514-82000-02 |
| Receiving flask - S 35/20 500 ml   | 514-83000-00 | 514-83000-02 |
| Receiving flask - S 35/20 1,000 ml | 514-84000-00 | 514-84000-02 |
| Receiving flask - S 35/20 2,000 ml | 514-85000-00 | 514-85000-02 |
| Receiving flask - S 35/20 3,000 ml | 514-87000-00 | 514-87000-02 |



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



| Spider  | NS 29/32      | NS 24/29      |
|---|---------------|---------------|
| Spider with 6 distillation sleeves NS 14,5 20 ml  | 15-300-005-09 | 15-300-005-12 |
| Spider with 12 distillation sleeves NS 14,5 20 ml | 15-300-005-10 | 15-300-005-13 |
| Spider with 20 distillation sleeves NS 14,5 20 ml | 15-300-005-11 | 15-300-005-06 |



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



| Evaporating cylinder          | NS 29/32     | NS 24/29     |
|-------------------------------|--------------|--------------|
| Evaporating cylinder 500 ml   | 514-00070-00 | 514-00070-01 |
| Evaporating cylinder 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 |

<sup>1</sup> Convenient for temperature range up to 80 °C

<sup>2</sup> for the usage of Deistimatic Bench-top

## Accessories



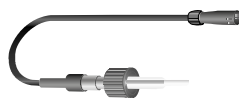
**Guard hood**  
P/N 569-00010-00

- Strong and transparent guard hood to protect you from implosions
- Provides easy and immediate access to flask and bath



**Guard shield**  
P/N 569-00020-00

- Strong and transparent guard shield for your protection while changing flasks
- Attached at the edge of the bath



**Vapor temperature sensor**  
P/N 569-00030-00

- For Hei-VAP Advantage and Hei-VAP Precision



**AUTOaccurate-sensor**  
P/N 569-00040-00

- For Hei-VAP Precision
- Only in combination with glassware set G3 and G6



**Tubing**  
P/N 591-35000-00 (package 12 m)  
P/N 591-33000-01 (by meter)

- Tubing for vacuum and water connection. Available as package (12 meter piece incl. hose clamps) or in individual length (by meter)
- Inner diameter: 8 mm
- Outer diameter: 13 mm



**Vacuum seal**  
P/N 23-30-01-01-30 (PTFE/FKM)  
P/N 23-30-01-06-70 (PTFE/FFKM)

- Standard PTFE / FKM spare seal
- Ultra resistant PTFE / FFKM seal for applications with highly abrasive solutions



**Aqua-Stop**  
P/N 569-00500-00

The integrated valve closes automatically by turning off the evaporator. The system saves money by reducing your consumption of cooling tap water. Moreover the safety mechanism avoids flooding in your laboratory. (Only for Hei-VAP Advantage and Hei-VAP Precision)



**Spare clamping sleeve**  
P/N 23-30-01-05-31

**Spare vapor tube NS 29/32**  
P/N 514-00000-01

**Heating bath liquid**  
P/N 569-00600-00

- Heating bath liquid up to 220 °C (5 kg)

## Vacuum Pumps

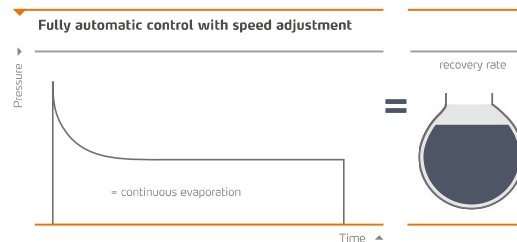
Advantages of all chemical-resistant diaphragm vacuum pumps



- All components which come in contact with media are built from chemically resistant fluoropolymer
- The durable PTFE design guarantees an superior diaphragm lifespan
- The head cover and clamping disc have a stable core made of metal which offers unsurpassed long-term performance of your operational parameters
- The direct pump drive (without belt) is exceptionally quiet, creates a very low vibrational environment and reduces the need of wear and tear parts to a minimum
- The gas ballast valve has been optimized to prevent media condensing in the pump

## RPM-Regulated Vacuum Pumps

- Highest distillation rates possible and reducing process time by 30 %
- Stable distillation conditions account for solvent recovery up to 99 %



RPM regulated pumps adjust their speed individually when the required vacuum level is reached

### YOUR ADVANTAGES

- Speed adjustment stops completely if vacuum is reached and runs intermittently at very low speed to hold vacuum constant
- Increased diaphragm performance life due to periods of non-operation
- Low energy consumption due to intermittent operation
- Significant noise and vibration reduction due to periods of non-operation
- Operates without vacuum valve
- Most precise vacuum level at all times



## ➤ Valve-Regulated Vacuum Pumps

Standard vacuum pumps can be controlled manually or via valve operated vacuum controllers

### Rotavac Valve Tec



**Rotavac Valve Tec**  
P/N 591-00160-00  
**Condenser**  
P/N 591-00083-00

For all  
Hei-VAP models

|                                      |                        |
|--------------------------------------|------------------------|
| Diaphragm pump                       | Two-stage              |
| Suction capacity                     | 0.75 m <sup>3</sup> /h |
| Ultimate vacuum                      | 12 mbar                |
| Combinable with a condenser          | yes                    |
| Power input                          | 80 Watt                |
| Weight                               | 6.0 kg                 |
| Dimensions L/W/H (without condenser) | 145 / 315 / 169 mm     |

Specifications per unit  
Recommended for solvents with low or medium boiling points  
Vacuum can be controlled via valve operated or manual vacuum controllers

### Rotavac Valve Control



**Rotavac Valve Control**  
P/N 591-00130-00  
**Condenser**  
P/N 591-00083-00

For all  
Hei-VAP models

|                                      |                       |
|--------------------------------------|-----------------------|
| Diaphragm pump                       | Two-stage             |
| Suction capacity                     | 2.0 m <sup>3</sup> /h |
| Ultimate vacuum                      | 7 mbar                |
| Combinable with a condenser          | yes                   |
| Power input                          | 180 Watt              |
| Weight                               | 12.8 kg               |
| Dimensions L/W/H (without condenser) | 195 / 245 / 310 mm    |

Specifications per unit  
Suction capacity for up to three rotary evaporators at the same time  
Vacuum can be controlled via valve operated or manual vacuum controllers  
Depending on your application you can switch on and off the vacuum pump via switchbox

## ➤ RPM-Regulated Vacuum Pumps

Controllable vacuum pumps for digital regulation of the vacuum via operation panel or directly at the unit (depending on version - see below)

### Rotavac Vario Tec



**Rotavac Vario Tec**  
P/N 591-00171-00  
**Condenser**  
P/N 591-00084-00

For  
Hei-VAP Precision

|                                      |                       |
|--------------------------------------|-----------------------|
| Diaphragm pump                       | Two-stage             |
| Suction capacity                     | 1.0 m <sup>3</sup> /h |
| Ultimate vacuum                      | 12 mbar               |
| Combinable with a condenser          | yes                   |
| Power input                          | 160 Watt              |
| Weight                               | 4.3 kg                |
| Dimensions L/W/H (without condenser) | 156 / 236 / 196 mm    |

Specifications per unit  
Recommended for solvents with low or medium boiling points

### Rotavac Vario Control



**Rotavac Vario Control**  
P/N 591-00141-00  
**Condenser**  
P/N 591-00084-00

For  
Hei-VAP Precision

|                                      |                       |
|--------------------------------------|-----------------------|
| Diaphragm pump                       | Three-stage           |
| Suction capacity                     | 1.7 m <sup>3</sup> /h |
| Ultimate vacuum                      | 2 mbar                |
| Combinable with a condenser          | yes                   |
| Power input                          | 160 Watt              |
| Weight                               | 5.4 kg                |
| Dimensions L/W/H (without condenser) | 167 / 236 / 196 mm    |

Specifications per unit  
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 bath temperatures

### Rotavac Vario Pumping Unit



**Rotavac Vario Pumping Unit**  
P/N 591-00142-00  
**Condenser**  
P/N 591-00084-00

Fully controllable stand-alone pumping unit including vacuum controller. For Hei-VAP Value and Hei-VAP Advantage

|                                      |                       |
|--------------------------------------|-----------------------|
| Diaphragm pump                       | Three-stage           |
| Suction capacity                     | 1.7 m <sup>3</sup> /h |
| Ultimate vacuum                      | 5 mbar                |
| Combinable with a condenser          | yes                   |
| Power input                          | 160 Watt              |
| Weight                               | 6.0 kg                |
| Dimensions L/W/H (without condenser) | 193 / 263 / 299 mm    |

Specifications per unit  
Precise vacuum control avoids bumping and eliminates foaming of your evaporation solution  
Due to automatic vacuum supply to the process parameters you have more time for important laboratory activities

## ➤ Vacuum Accessories

### Switchbox

Connect up to three rotary evaporators to one vacuum pump



### Switchbox

P/N 569-00400-00

- Connect up to three rotary evaporators to one pump and control vacuum individually
- Pump switches off automatically at required vacuum
- Reduces energy consumption of pump
- Increases performance life of the pump due to a complete switch-off if vacuum is reached
- Vacuum valve and non-return valve are required for every evaporator if you work with different pressures at the same time
- Delivery includes three non-return valves
- Designed for Hei-VAP Precision
- Weight: 0.6 kg
- Dimensions: L80 / W160 / H45 mm

### Manual vacuum controller

For Hei-VAP Value and Hei-VAP Advantage



### Manual vacuum controller

P/N 591-26000-00

- Control your house vacuum or any other vacuum source
- Pressure range from 0 to 1,020 mbar
- Scaling on display in steps of 50 mbar
- Connection for tubes with 8 mm inner diameter
- Support rod included
- A vacuum valve is not required
- Dimensions: L80 / W80 / H150 mm

### Vacuum valve

Required to control vacuum for Hei-VAP Precision models with valve-regulated pumps



### Vacuum valve

P/N 569-00060-00

- External attachment design for easy cleaning
- Can be combined with the Woulff Bottle to one unit
- Not required if you utilize a Manual vacuum controller

### Woulff bottle

P/N 569-00070-00

- Additional recovery of solvent to protect vacuum valve and vacuum pump
- Compatible with all Hei-VAP configurations
- Direct connection to the vacuum valve is possible
- Features connection to vacuum controller
- Volume of 250 ml

## ➤ Chillers

### RotaChill Large

Highest cooling capacity



### RotaChill Large

P/N 591-00240-00

- Highest cooling capacity for any application
- Temperature range from -20 °C to +40 °C
- Temperature control accuracy of  $\pm 0.1$  °C
- Digital display for temperature setting and reading out actual temperature
- Cooling capacity at +20 °C: 1,290 W
- Footprint of chiller: L607 / W254 / H483 mm

### Rotacool Mini

Ideal for standard applications



### Rotacool Mini

P/N 591-00210-00

- Chiller for all standard applications
- Temperature range from -10 °C to +40 °C
- Temperature control accuracy of  $\pm 1$  °C
- Digital display for temperature settings and reading out actual temperature
- Cooling capacity at +20 °C: 580 W
- Footprint of chiller: L360 / W310 / H520 mm

### RotaChill Small

The affordable model



### RotaChill Small

P/N 591-00220-00

- Temperature range from 0 °C to +100 °C
- Precise temperature control accuracy of  $\pm 0.2$  °C
- The RotaChill Small should be placed directly besides the evaporator to ensure a sufficient pump performance
- Footprint of chiller: L450 / W210 / H570 mm

|                              |        | RotaChill Large | Rotacool Mini | RotaChill Small |
|------------------------------|--------|-----------------|---------------|-----------------|
| Temperature range            | [°C]   | -20 to +40      | -10 to +40    | 0 to +100       |
| Coolant volume               | [L]    | 2.7             | 3             | 6               |
| Cooling capacity* at: +20 °C | [W]    | 1,290           | 580           | 200             |
|                              | 0 °C   | 750             | 370           | 140             |
|                              | -10 °C | -               | 80            | -               |
|                              | -20 °C | 260             | -             | -               |

\* at 20 °C ambient temperature

## Equipment Combinations

With the Hei-VAP series you can easily assemble your individual laboratory equipment - exactly to your requirements.

Please refer to the overview by Hei-VAP units for the possible configurations or contact us - we are happy to be at your service and will advise you in detail.

### Example configuration

#### Rotary Evaporator



Hei-VAP Advantage

#### Vacuum source



Rotovac Vario Pumping Unit



#### Accessories



|   |                     |   |
|---|---------------------|---|
| Vacuum controller                             | <b>included</b>     | included in pumping unit, no further configuration required |
| Vapor temperature sensor (all glassware sets) | <b>optional</b>     | optional available as accessory                             |
| Vacuum valve                                  | <b>not required</b> | not required due to rpm regulation                          |

As an aid to decision-making we have created different packages for you, from basic equipment up to automatic distillation with RPM-regulated vacuum pumps - for details see the following pages.

## Overview of Hei-VAP units

### Rotary Evaporator



Hei-VAP Value / Hei-VAP Value Digital

### Vacuum source

|                            |                     |
|----------------------------|---------------------|
| Rotovac Vario Pumping Unit | <b>included</b>     |
| Rotovac Valve Control      | <b>not required</b> |
| Rotovac Valve Tec          | <b>optional</b>     |
| House vacuum               |                     |

### Accessories

|                          |
|--------------------------|
| Vacuum controller        |
| Vacuum valve             |
| Manual vacuum controller |

Hei-VAP Advantage



|                            |                 |
|----------------------------|-----------------|
| Rotovac Vario Pumping Unit | <b>included</b> |
| Rotovac Valve Control      | <b>optional</b> |
| Rotovac Valve Tec          | <b>optional</b> |
| House vacuum               |                 |

|   |
|---|
| Vacuum controller                             |
| Vapor temperature sensor (all glassware sets) |
| Vacuum valve                                  |
| Manual vacuum controller                      |
| Vapor temperature sensor (all glassware sets) |

Hei-VAP Precision



|                       |                 |
|-----------------------|-----------------|
| Rotovac Valve Control | <b>included</b> |
| Rotovac Valve Tec     | <b>required</b> |
| House vacuum          | <b>optional</b> |

|   |
|---|
| Vacuum controller                             |
| Vacuum valve                                  |
| Autoaccurate®-sensor (glassware G3/G6 only)   |
| Vapor temperature sensor (all glassware sets) |



## ➤ Hei-VAP Packages



**Hei-VAP Silver 4 Package**  
P/N 560-91302-00

### Hei-VAP Silver Packages

Standard equipment for your lab

#### Hei-VAP Silver 4 Package

P/N 560-91302-00

Hei-VAP Value Digital with hand lift and vertical glassware set G3

- Vacuum pump Rotavac Valve Tec
- Manual vacuum controller
- Tube set

#### Hei-VAP Silver 5 Package

P/N 560-81312-00

Hei-VAP Value Digital with hand lift and coated vertical glassware set G3B

- Vacuum pump Rotavac Valve Control
- Manual vacuum controller
- Tube set

#### Hei-VAP Silver 6 Package

P/N 560-91309-20

Hei-VAP Value Digital with hand lift and vertical glassware set G3

- Vacuum pump Rotavac Valve Tec
- Manual vacuum controller
- Chiller RotaChill Small
- Tube set



**Hei-VAP Gold 3 Package**  
P/N 562-91307-00

### Hei-VAP Gold Packages

For standard distillations with vacuum control

#### Hei-VAP Gold 1 Package

P/N 561-41300-00

- Hei-VAP Advantage with hand lift and vertical glassware set G3
- Vapor temperature sensor
- Vacuum pump Rotavac Valve Tec
- Manual vacuum controller
- Tube set

#### Hei-VAP Gold 2 Package

P/N 562-11310-00

Hei-VAP Advantage with motor lift and coated vertical glassware set G3B

- Vapor temperature sensor
- Vacuum pump Rotavac Vario Pumping Unit
- Tube set

#### Hei-VAP Gold 3 Package

P/N 562-91307-00

- Hei-VAP Advantage with motor lift and vertical glassware set G3
- Vacuum pump Rotavac Valve Tec
- Manual vacuum controller
- Chiller Rotacool Mini
- Tube set

#### Hei-VAP Gold 4 Package

P/N 564-61310-00

- Hei-VAP Precision with motor lift and vertical glassware set G3B
- Vacuum pump Rotavac Valve Tec with condenser
- Vacuum valve
- Tube set



**Hei-VAP Platinum 2 Package**  
P/N 563-51310-00

### Hei-VAP Platinum Packages

Automatic distillations with Hei-VAP Precision hand lift models and valve-regulated vacuum pumps

#### Hei-VAP Platinum 1 Package

P/N 563-61300-00

- Hei-VAP Precision with hand lift and vertical glassware set G3
- Vapor temperature sensor
- Vacuum valve
- Vacuum pump Rotavac Valve Tec with condenser
- Tube set

#### Hei-VAP Platinum 2 Package

P/N 563-51310-00

- Hei-VAP Precision with hand lift and coated vertical glassware set G3B
- AUTOaccurate-sensor
- Vacuum valve
- Vacuum pump Rotavac Valve Control with condenser
- Tube set

### Hei-VAP Safety Upgrade

For highest safety

#### Hei-VAP Safety Upgrade

P/N 569-00311-00

Additional guard hood and coating of glassware for your Hei-VAP Package



**Hei-VAP Platinum 5 Package**  
P/N 564-31318-00

### Hei-VAP Platinum Packages

Automatic distillations with Hei-VAP Precision motor lift models and RPM-regulated vacuum pumps

#### Hei-VAP Platinum 3 Package

P/N 564-21300-00

- Hei-VAP Precision with motor lift and vertical glassware set G3
- AUTOaccurate-sensor
- Vacuum pump Rotavac Vario Tec with condenser
- Woulff bottle
- Tube set

#### Hei-VAP Platinum 4 Package

P/N 564-31310-00

- Hei-VAP Precision with motor lift and coated vertical glassware set G3B
- AUTOaccurate-sensor
- Vacuum pump Rotavac Vario Control with condenser
- Woulff bottle
- Tube set

#### Hei-VAP Platinum 5 Package

P/N 564-31318-00

- Hei-VAP Precision with motor lift and coated vertical glassware set G3B
- AUTOaccurate-sensor
- Vacuum pump Rotavac Vario Control with condenser
- Woulff bottle
- Chiller RotaChill Large
- Tube set

#### Hei-VAP Platinum 5 XL Package

P/N 564-31319-00

- Hei-VAP Precision with motor lift and coated vertical glassware set G3B XL
- AUTOaccurate-sensor
- Vacuum pump Rotavac Vario Control with condenser
- Woulff bottle
- Chiller RotaChill Large
- Tube set

## Technical Specifications - Rotary Evaporators

| Model  | Hei-VAP Value (HL) / Value Digital (HL)   | Hei-VAP Advantage (HL)  | Hei-VAP Advantage (ML)  | Hei-VAP Precision (HL)  | Hei-VAP Precision (ML)  |
|--|---|---|---|---|---|
| Hand / Motor lift  | hand lift   | hand lift   | motor lift  | hand lift   | motor lift  |
| Height adjustment speed  | manual  | manual  | 30 mm/s   | manual  | 30 mm/s   |
| Height adjustment (mm)   | 155   | 155   | 155   | 155   | 155   |
| Rotation speed (rpm)   | 10 – 280  | 10 – 280  | 10 – 280  | 10 – 280  | 10 – 280  |
| Rotation speed setting   | scale   | 3,5" LCD display  | 3,5" LCD display  | 4,3" LCD color graphic display  | 4,3" LCD color graphic display  |
| Drive  |   | brushless DC motor with electronic speed control  |   |   |   |
| Heating capacity (W)   | 1,300   | 1,300   | 1,300   | 1,300   | 1,300   |
| Temp. range heating bath (°C)  | 20 – 210  | 20 – 210  | 20 – 210  | 20 – 210  | 20 – 210  |
| Temperature accuracy bath (°C)   | ±1  | ±1  | ±1  | ±1  | ±1  |
| Overheat protection bath (°C)  |   | cut-off at 5 °C over set temperature via separate Pt 1000                                       |   |   |   |
| Bath temperature setting****   | scale / digital   | 3,5" LCD display  | 3,5" LCD display  | 4,3" LCD color graphic display  | 4,3" LCD color graphic display  |
| Heating bath temperature control   | electronic / digital  | electronic / digital  | electronic / digital  | electronic / digital  | electronic / digital  |
| Secondary overtemp. cut-off (°C)   | 250   | 250   | 250   | 250   | 250   |
| Material heating bath  | stainless steel AISI 316L   | stainless steel AISI 316L   | stainless steel AISI 316L   | stainless steel AISI 316L   | stainless steel AISI 316L   |
| Diameter heating bath (mm)   | 255   | 255   | 255   | 255   | 255   |
| Volume heating bath (L)  | 4,5   | 4,5   | 4,5   | 4,5   | 4,5   |
| Display vapor temperature  | no  | yes   | yes   | yes   | yes   |
| required accessories   |   | vapor temperature sensor  | vapor temperature sensor  | vapor temperature sensor  | vapor temperature sensor  |
| Integrated vacuum controller   | no  | no  | no  | yes   | yes   |
| Timer  | no  | yes   | yes   | yes   | yes   |
| Vacuum program SET <sup>pressure</sup> **  | no  | no  | no  | yes   | yes   |
| Vacuum program AUTO <sup>easy</sup> **   | no  | no  | no  | yes   | yes   |
| Vacuum program AUTO <sup>accurate</sup> ** requires AUTO <sup>accurate</sup> -sensor | no  | no  | no  | yes   | yes   |
| Remote control function  |   |   |   |   |   |
| - Lift   | no  | no  | yes   | no  | yes   |
| - Start rotation   | yes   | yes   | yes   | yes   | yes   |
| - Start vacuum   | no  | no  | no  | yes   | yes   |
| - Start heating bath   | yes   | yes   | yes   | yes   | yes   |
| Programmable ramps   | no  | no  | no  | yes   | yes   |
| Supply power (W)   | 1,400   | 1,400   | 1,400   | 1,400   | 1,400   |
| Weight (w/o glassware assembly) (kg)   | 16  | 16  | 16  | 17  | 17  |
| Dimensions with glassware set G3 (mm) Width on extended heating bath (L x W x H)     | 477 x max. 739 x 845  | 477 x max. 739 x 845  | 407 x max. 739 x 845  | 523 x max. 739 x 845  | 453 x max. 739 x 845  |
| Dimensions with glassware set G3 XL (mm) Width on extended heating bath (L x W x H)  | 477 x max. 739 x 920  | 477 x max. 739 x 920  | 407 x max. 739 x 920  | 523 x max. 739 x 920  | 453 x max. 739 x 920  |
| Protection class*** (DIN EN 60529)   | IP 20   | IP 20   | IP 20   | IP 20   | IP 20   |
| Permissible ambient conditions   | 5 – 31 °C at 80 % rel. humidity<br>32 – 40 °C decreasing linearly up to max. 50 % rel. humidity | 5 – 31 °C at 80 % rel. humidity<br>32 – 40 °C decreasing linearly up to max. 50 % rel. humidity | 5 – 31 °C at 80 % rel. humidity<br>32 – 40 °C decreasing linearly up to max. 50 % rel. humidity | 5 – 31 °C at 80 % rel. humidity<br>32 – 40 °C decreasing linearly up to max. 50 % rel. humidity | 5 – 31 °C at 80 % rel. humidity<br>32 – 40 °C decreasing linearly up to max. 50 % rel. humidity |
| Condensing surface (cm <sup>2</sup> )  | 1,400   | 1,400   | 1,400   | 1,400   | 1,400   |
| Condensing surface XL Condenser (cm <sup>2</sup> )                                   | 2,200   | 2,200   | 2,200   | 2,200   | 2,200   |

| Rate of evaporation* (L/h)        | Toluene | Acetone | Ethanol | Isopropanol (IPA) | Water                             |
|-----------------------------------|---------|---------|---------|-------------------|-----------------------------------|
| G3 Vertical                       | 6.5     | 6.0     | 2.5     | 4.0               | 1.4                               |
| G3 XL Vertical                    | 8.5     | 7.5     | 3.5     | 4.9               | 1.4                               |
| Improvement with XL condenser (%) | 31      | 25      | 40      | 23                | system limit reached with 1.4 L/h |

\* With maximum condenser efficiency  
\*\* Only in combination with vacuum systems

\*\*\* IP 67 cable connection on heating bath  
\*\*\*\* Hei-VAP Value Digital: digital display

Standard supply voltage: 230 V - other voltages upon request, please specify for order

# Certificate

To confirm the ability for  
continuous operation  
of the Hei-VAP series Rotary Evaporators

Hei-VAP series Rotary Evaporators feature overtemperature safety circuits according to DIN EN 61010-1:2001 and DIN EN 61010-2-010:2014 and therefore is designed for continuous operation.

This statement is made under the precondition that all units are operated in accordance with the operation manual and in accordance with good practice standards for safety in laboratories, rules for accident preventions, and compliance with directions on hazardous materials.

Schwabach, January 2018



Stefan Peters  
Research and Development Manager



Marcell Sarré  
Quality Manager

# heidolph

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