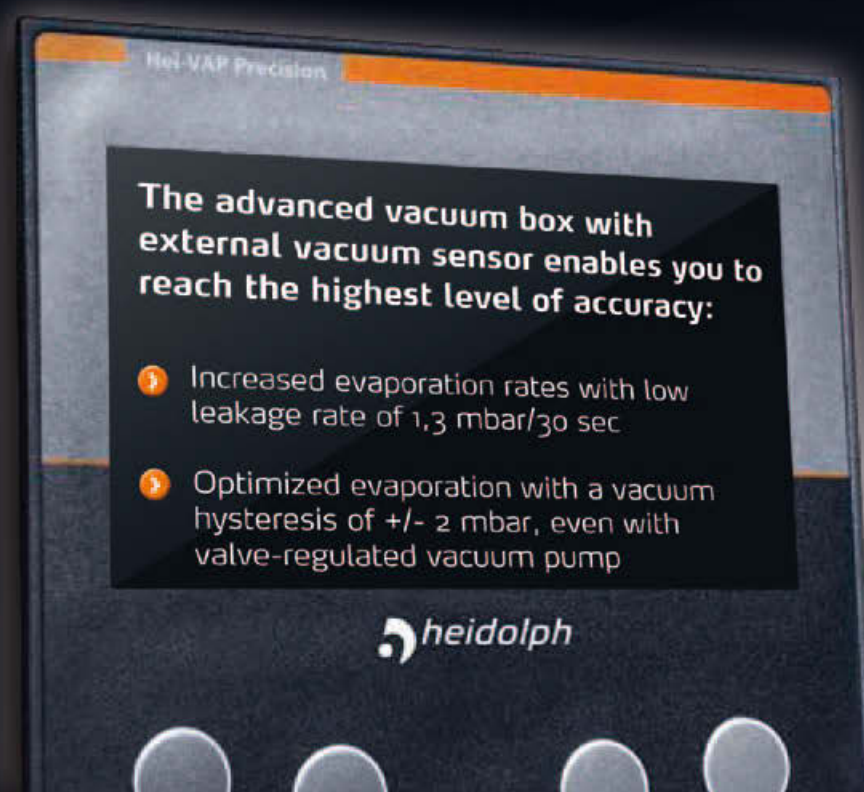


# Hei-VAP Precision

for the highest level  
of accuracy



## ➤ Vacuum Pumps

Advantages of all chemical-resistant diaphragm vacuum pumps



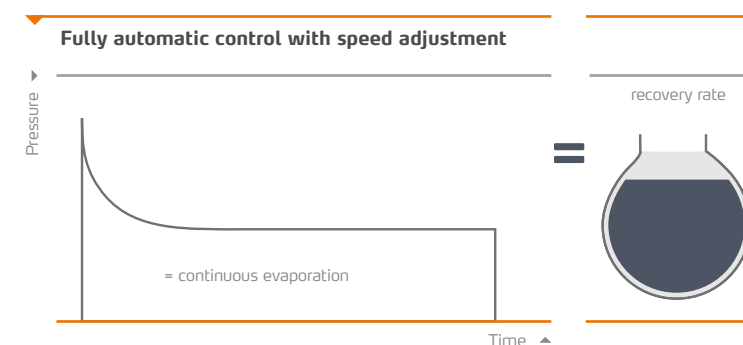
- All components which come in contact with media are built from chemically resistant fluoropolymer
- The durable PTFE design guarantees an superior diaphragm lifespan
- The head cover and clamping disc have a stable core made of metal which offers unsurpassed long-term performance of your operational 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

RPM regulated pumps adjust their speed individually and come to a complete stop 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



➤ **Highest distillation rates possible and reducing process time by 30 %**

➤ **Stable distillation conditions account for solvent recovery up to 100 %**

➤ **RPM Regulated Vacuum Pumps**

**Rotavac Vario Pumping Unit**

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



**Rotavac Vario Pumping Unit**

P/N 591-00142-00  
**Condenser**  
P/N 591-00084-00

- Three-stage diaphragm pump is made from chemical-resistant material
- High suction capacity of 1.7 m<sup>3</sup>/h for fastest evacuation
- Achieves an ultimate vacuum of 5 mbar
- 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
- Can be combined with a condenser
- Power input: 160 W, Weight: 6.0 kg
- Dimensions (without condenser): L263 / W193 / H299 mm

**Rotavac Vario Tec**

For Hei-VAP Precision



**Rotavac Vario Tec**

P/N 591-00171-00  
**Condenser**  
P/N 591-00084-00

- Two-stage diaphragm pump is made from chemical-resistant material
- Suction capacity of 1.0 m<sup>3</sup>/h
- Achieves an ultimate vacuum of 12 mbar
- Recommended for solvents with low or medium boiling points
- Can be combined with a condenser
- Power input: 160 W, Weight: 4.3 kg
- Dimensions (without condenser): L156 / W236 / H196 mm

**Rotavac Vario Control**

For Hei-VAP Precision



**Rotavac Vario Control**

P/N 591-00141-00  
**Condenser**  
P/N 591-00084-00

- Three-stage diaphragm pump is made from chemical-resistant material
- High suction capacity of 1.7 m<sup>3</sup>/h for fastest evacuation
- Achieves an ultimate vacuum of 2 mbar
- 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
- Can be combined with a condenser
- Power input: 160 W, Weight: 5.4 kg
- Dimensions (without condenser): L167 / W236 / H196 mm

➤ **Valve-Regulated Vacuum Pumps**

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

**Rotavac Valve Tec**

For all Hei-VAP models



**Rotavac Valve Tec**

P/N 591-00160-00  
**Condenser**  
P/N 591-00083-00

- Two-stage diaphragm vacuum pump made of chemical-resistant material
- Suction capacity of 0.75 m<sup>3</sup>/h
- Achieves an ultimate vacuum of 12 mbar
- Recommended for solvents with low or medium boiling points
- Vacuum can be controlled manually or via valve operated vacuum controllers
- Can be combined with a condenser
- Power input: 80 W, Weight: 6.0 kg
- Dimensions (without condenser): L145 / W315 / H169 mm

**Rotavac Valve Control**

For all Hei-VAP models



**Rotavac Valve Control**

P/N 591-00130-00  
**Condenser**  
P/N 591-00083-00

- Two-stage diaphragm pump made from chemical-resistant material
- High suction capacity of 2.0 m<sup>3</sup>/h for fastest evacuation
- Achieves an ultimate vacuum of 7 mbar
- Suction capacity for up to 3 rotary evaporators at the same time
- Vacuum can be controlled manually or via valve operated vacuum controllers
- Depending on your application you can switch on and off the vacuum pump via switchbox
- Can be combined with a condenser
- Power input: 180 W, Weight: 12.8 kg
- Dimensions (without condenser): L195 / W245 / H310 mm



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 ±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 ±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 ±0.2 °C
- The RotaChill 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

Accessories



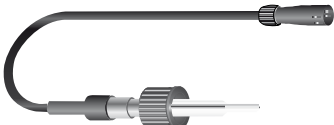
Guard hood  
P/N 569-00010-00

- 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



Tube set  
P/N 591-35000-00

- Includes 6.25 meter vacuum tubing and 6.25 meter water tubing



Spare PTFE vacuum seal  
P/N 23-30-01-01-30



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

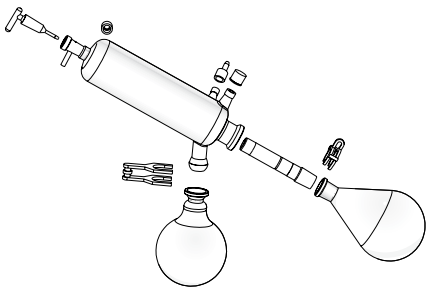
- Heating bath liquid up to 220 °C (5 L)

> 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
- 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
- All glassware sets feature GL 10 thread; the inlet tube can be connected with a threaded fitting
- Glassware sets G3 and G6 allow for the automated distillation program AUTOaccurate on Hei-VAP Precision models

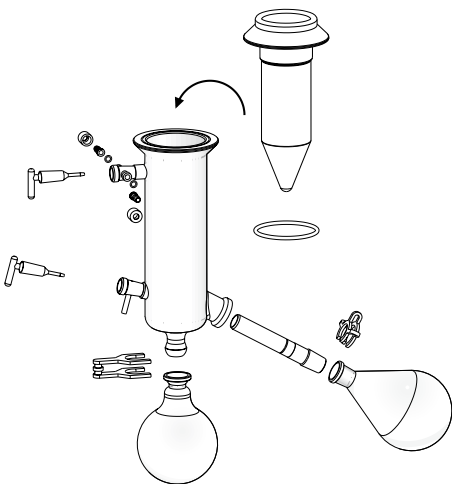
Glassware set G1

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



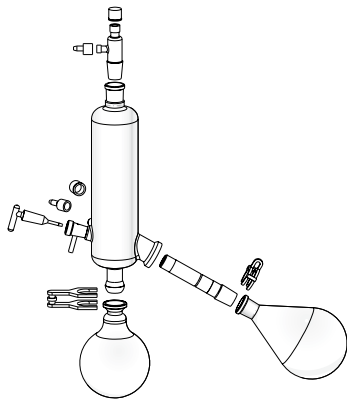
Glassware set G5

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



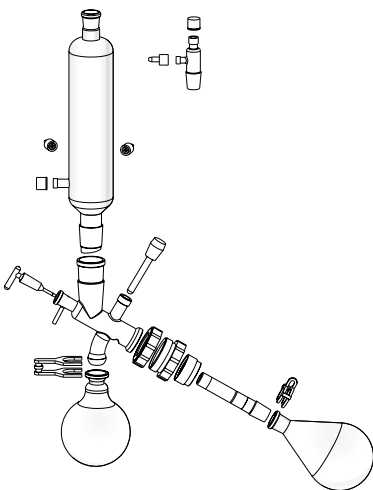
Glassware set G3

- Vertical condenser for all standard distillations; the option with the **smallest space requirement**



Glassware set G6

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



> Accessories

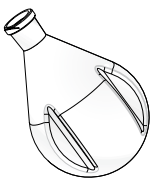


Evaporating flasks	NS 29/32	NS 24/29
Evaporating flask * 50 ml	514-70000-00	514-70000-01
Evaporating flask 100 ml	514-71000-00	514-71000-01
Evaporating flask 250 ml	514-72000-00	514-72000-01
Evaporating flask 500 ml	514-73000-00	514-73000-01
Evaporating flask 1,000 ml	514-74000-00	514-74000-01
Evaporating 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

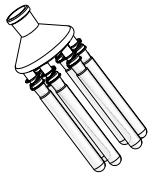
\* Evaporating flask NS 14.5 incl. adaptor (NS 29 or NS 24)



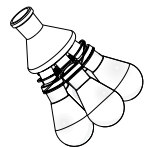
Receiving flasks	standard	coated
Receiving flask - NS 35/20 100 ml	514-81000-00	514-81000-02
Receiving flask - NS 35/20 250 ml	514-82000-00	514-82000-02
Receiving flask - NS 35/20 500 ml	514-83000-00	514-83000-02
Receiving flask - NS 35/20 1,000 ml	514-84000-00	514-84000-02
Receiving flask - NS 35/20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

➤ Vacuum Accessories

Switchbox

Connect up to 3 rotary evaporators to one vacuum pump



Switchbox  
P/N 569-00400-00

- Connect up to 3 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 3 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

➤ Equipment Combinations

Rotary Evaporator



Hei-VAP Value / Hei-VAP Value Digital



Hei-VAP Advantage



Hei-VAP Precision



Rotavac Valve Control with condenser



Rotavac Valve Tec with condenser



Rotavac Vario Control with condenser



Rotavac Vario Tec with condenser



Rotavac Vario Pumping Unit with condenser



Manual vacuum controller



Vacuum valve with Woulff bottle



AUTOaccurate®-sensor



Vapor temperature sensor

Vacuum source

Rotavac Vario Pumping Unit

included

not required

Rotavac Valve Control  
Rotavac Valve Tec  
House vacuum

optional

Accessories

Vacuum controller

Vacuum valve

Manual vacuum controller

Rotavac Vario Pumping Unit

included

optional

not required

Rotavac Valve Control  
Rotavac Valve Tec  
House vacuum

optional

Vacuum controller

Vapor temperature sensor (all glassware sets)

Vacuum valve

Manual vacuum controller

Vapor temperature sensor (all glassware sets)

Rotavac Valve Control  
Rotavac Valve Tec  
House vacuum

included

required

optional

Vacuum controller

Vacuum valve

Autoaccurate®-sensor (glassware G3/G6 only)

Vapor temperature sensor (all glassware sets)

Rotavac Vario Control  
Rotavac Vario Tec

included

not required

optional

Vacuum controller

Vacuum valve

Autoaccurate®-sensor (glassware G3/G6 only)

Vapor temperature sensor (all glassware sets)

➤ **Hei-VAP Packages**



**Hei-VAP Silver 3 Package**  
P/N 560-91309-00

**Hei-VAP Silver Packages**

Standard equipment for your lab

**Hei-VAP Silver 1 Package**  
P/N 560-91300-00

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

**Hei-VAP Silver 2 Package**  
P/N 560-81310-00

- Hei-VAP Value with hand lift and coated vertical glassware set G3B
- Vacuum pump Rotavac Valve Control
- Manual vacuum controller
- Tube set

**Hei-VAP Silver 3 Package**  
P/N 560-91309-00

- Hei-VAP Value with hand lift and vertical glassware set G3
- Vacuum pump Rotavac Valve Tec
- Manual vacuum controller
- Chiller RotaChill Small
- Tube set

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

- Similar to „Hei-VAP Silver 1 Package“ but comes with Hei-VAP Value Digital

**Hei-VAP Silver 5 Package**  
P/N 560-81312-00

- Similar to „Hei-VAP Silver 2 Package“ but comes with Hei-VAP Value Digital

**Hei-VAP Silver 6 Package**  
P/N 560-91309-20

- Similar to „Hei-VAP Silver 3 Package“ but comes with Hei-VAP Value Digital



**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 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



# 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 required accessories	no	yes vapor temperature sensor	yes vapor temperature sensor	yes vapor temperature sensor	yes vapor temperature sensor
Integrated vacuum controller	no	no	no	yes	yes
Timer	no	yes	yes	yes	yes
Vacuum program SET <sub>pressure</sub> **	no	no	no	yes	yes
Vacuum program AUTO <sub>easy</sub> * *	no	no	no	yes	yes
Vacuum program AUTO <sub>accurate</sub> ** requires AUTO <sub>accurate</sub> -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 (l x w x h) (mm)	739 x 490 x 887	739 x 490 x 887	739 x 420 x 887	739 x 490 x 887	739 x 420 x 887
Protection class* * * (DIN EN 60529)	IP 20	IP 20	IP 20	IP 20	IP 20
Operating conditions (°C)	0 - 40 at 80 % rel. humidity	0 - 40 at 80 % rel. humidity	0 - 40 at 80 % rel. humidity	0 - 40 at 80 % rel. humidity	0 - 40 at 80 % rel. humidity
Rate of evaporation* (L/h)					
- Toluene	8.5	8.5	8.5	8.5	8.5
- Acetone	5.8	5.8	5.8	5.8	5.8
- Ethanol	3.5	3.5	3.5	3.5	3.5
- Water	1.2	1.2	1.2	1.2	1.2
Condensing surface (cm <sup>2</sup> )	1,200	1,200	1,200	1,200	1,200

\* ΔT of 40 °C between heating bath temperature and boiling temperature  
\*\* 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



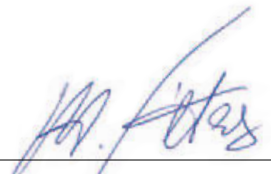
# Certificate

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 61010-2-010:2003 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.

S c h w a b a c h , J a n u a r y 2 0 1 6

  
Stefan Peters  
Research and Development Manager

  
Marcell Sarré  
Quality Manager



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