

Automatic 24/7 Evaporation



Hei-VOLUME Automatic Modules

Leading Safety Standards

Superior Ease of Use

Reduced Cost of Ownership





For unattended and continuous use – including automatic drainage of residue

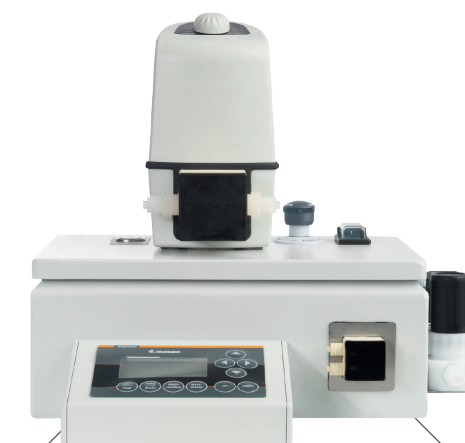
Automatic 24/7 Evaporation

Save time by distilling large volumes in a continuous and unattended manner overnight and during the weekend

➤ The smart way to process large quantities automatically

- The system is available for bench-top evaporators up to 5 liter flask size and industrial evaporators up to 20 liter flask size
- Bumping is eliminated by continuously feeding small volumes
- For distillation select between these two modes:
 - **Sensor-Mode:** Refill and drainage are automatically sensor-controlled
 - **Time-Mode:** All parameters controlled by individually pre-programmed automatic time intervals
- Process rates with Hei-VAP Industrial for the most common solvents are:
 - **Water (60 °C): 1.4 l/h**
 - **Acetone: 6.0 l/h**
 - **Toluene: 6.5 l/h**
 - **Ethanol: 2.5 l/h**
- Degree of concentration for final product can be determined to rule out dehydration, crystallisation and formation of powder
- Both modes are completed in an automated and unattended process of solvent separations of nearly 100 %

For distillation select between these two modes:



Sensor-Mode:

Refill and drainage are automatically sensor-controlled

- A sensor detects the fill-level inside the evaporation flask
- The desired/requested fill-level can be set individually
- Flask refill is achieved via valve control and under system pressure
- A sensor monitors the quantity of the solvent mixture and powers off the unit once it is completely processed

Time-Mode:

All parameters controlled by individually pre-programmed automatic time intervals

- The desired/requested fill-level can be set individually
- Flask refill is achieved via valve control and under system pressure according to pre-programmed cycles
- The process is powered off once the pre-programmed number of cycles have expired

Leading **Safety Standards**

- The complete system is sensor-controlled and **turns off the automatic module as well as all connected equipment completely in case of an emergency**
- The system **can be placed under a fume hood** which ensures the highest safety level for the operator
- An easy accessible emergency-button allows to **stop the process immediately** by the operator

Superior **Ease of Use**

- Take advantage of the wide range of possibilities to **adjust the settings according to your individual needs**
- The process can be **terminated automatically** after evaporation is completed or manually at any time by the operator
- Integrated plug connectors enable you to connect and to **control** also the connected equipment **from a central point**
- The **worldwide unique automatic residue drainage** offers a wide range of new possibilities for **automatic, continuous and unattended distillation**

Reduced Cost of Ownership

- **Affordable alternative to common 50 or 100 liter evaporators**
- **Increase your efficiency** - the fully automatic process avoids the need of visual control and gives you time to focus on other tasks
- **Reduce your investments** by using your existing equipment - the automatic module is compatible to all rotary evaporators from Heidolph
- The unattended and continuous reconditioning of solvent **avoids any bottlenecks** of availability of solvents and reduce your investments in this way

General

- Automatic refill of the evaporation flask with the solvent mixture according to your settings. Continuous automatic discharge of condensate
- The worldwide unique automatic residue drainage offers unattended distillation for days
- The automatic module is compatible with all bench-top and large-scale evaporators from Heidolph
- The storage and the collecting tank can be replaced during the process



Automated 24/7 Evaporation



Leading Safety Standards

Superior Ease of Use

Reduced Cost of Ownership

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

Automated in unattended distillation in **two different modes**

Automatic drainage of residue: residue in the evaporating flask will be drained off

The bench-top system can be **used in common fume hoods** due to the space saving design

Wide range of possibilities to **adjust settings according to your individual needs**

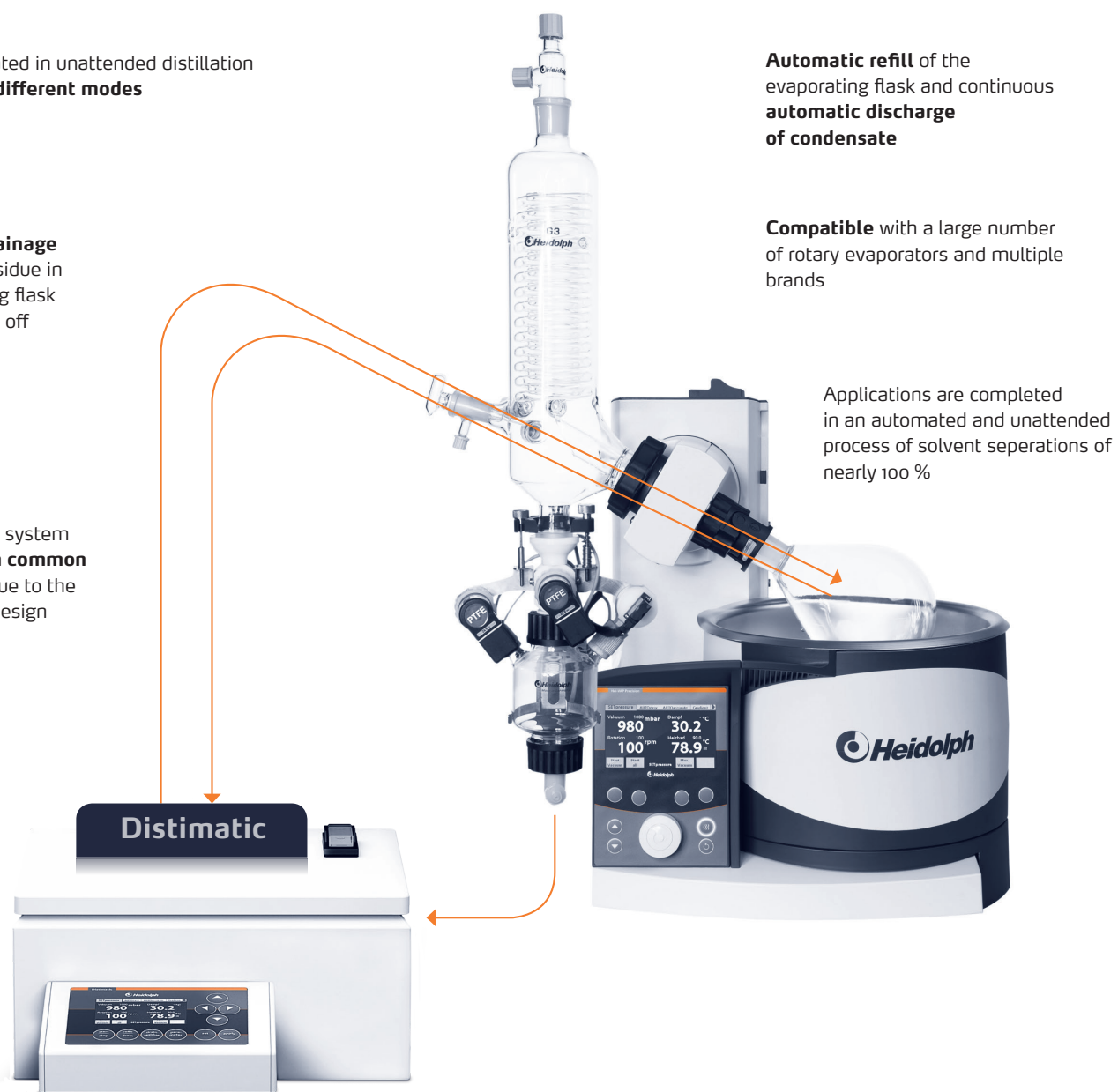
In case of an emergency **the complete system will power off entirely**

Automatic refill of the evaporating flask and **continuous automatic discharge of condensate**

Compatible with a large number of rotary evaporators and multiple brands

Applications are completed in an automated and unattended process of solvent separations of nearly 100 %

Bumping is eliminated by continuously feeding small volumes



WORLD'S FIRST

Functional Principle

For unattended and continuous use – including automatic drainage of residue
Save time by distilling large volumes in a continuous and unattended manner overnight and during the weekend

Automatic solvent supply of the evaporating flask

- Refilling with the Sensor-Mode runs automatically and is based on the desired level in the evaporating flask
- Refilling with the Time-Mode is done according to individual time parameters

Automatic discharge of condensate

- A valve matrix controls the continuous discharge of the condensate from the system into a temporary storage flask. Afterwards the collected condensate will be discharged into the collecting tank by a diaphragm pump

End of distillation process

- The process can be terminated automatically after evaporation is completed or manually at any time by the operator

Automatic drainage of residue

- The residue in the evaporating flask will be drained into a collecting tank. Afterwards the process starts again automatically by refilling the evaporating flask

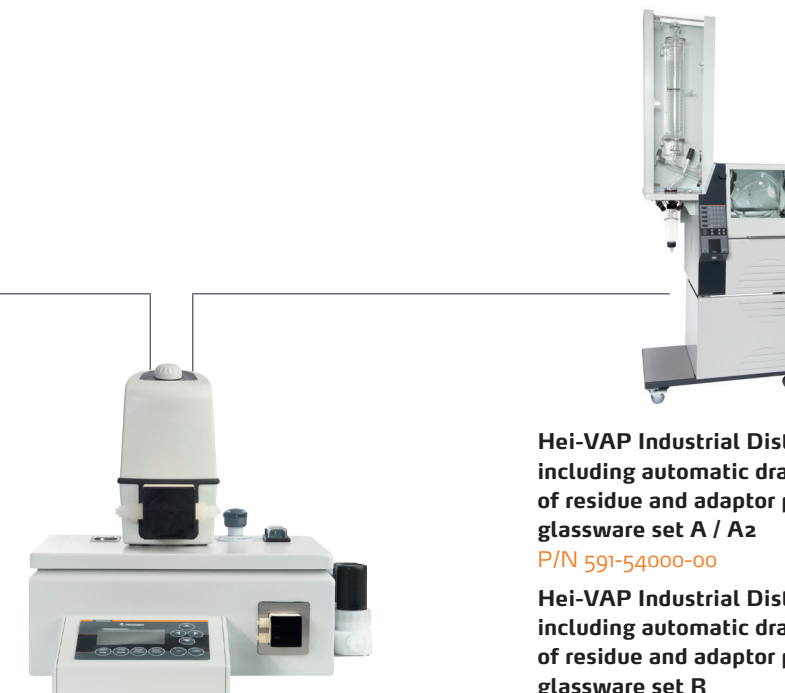
Hei-VAP Distimatic / Hei-VAP Industrial Distimatic

The automatic module Hei-VAP Distimatic is compatible with all bench-top and large-scale evaporators from Heidolph



Hei-VAP Distimatic including automatic drainage of residue
P/N 591-53000-00

Hei-VAP Distimatic without automatic drainage of residue
P/N 591-51000-00



Hei-VAP Industrial Distimatic including automatic drainage of residue and adaptor piece for glassware set A / A2
P/N 591-54000-00

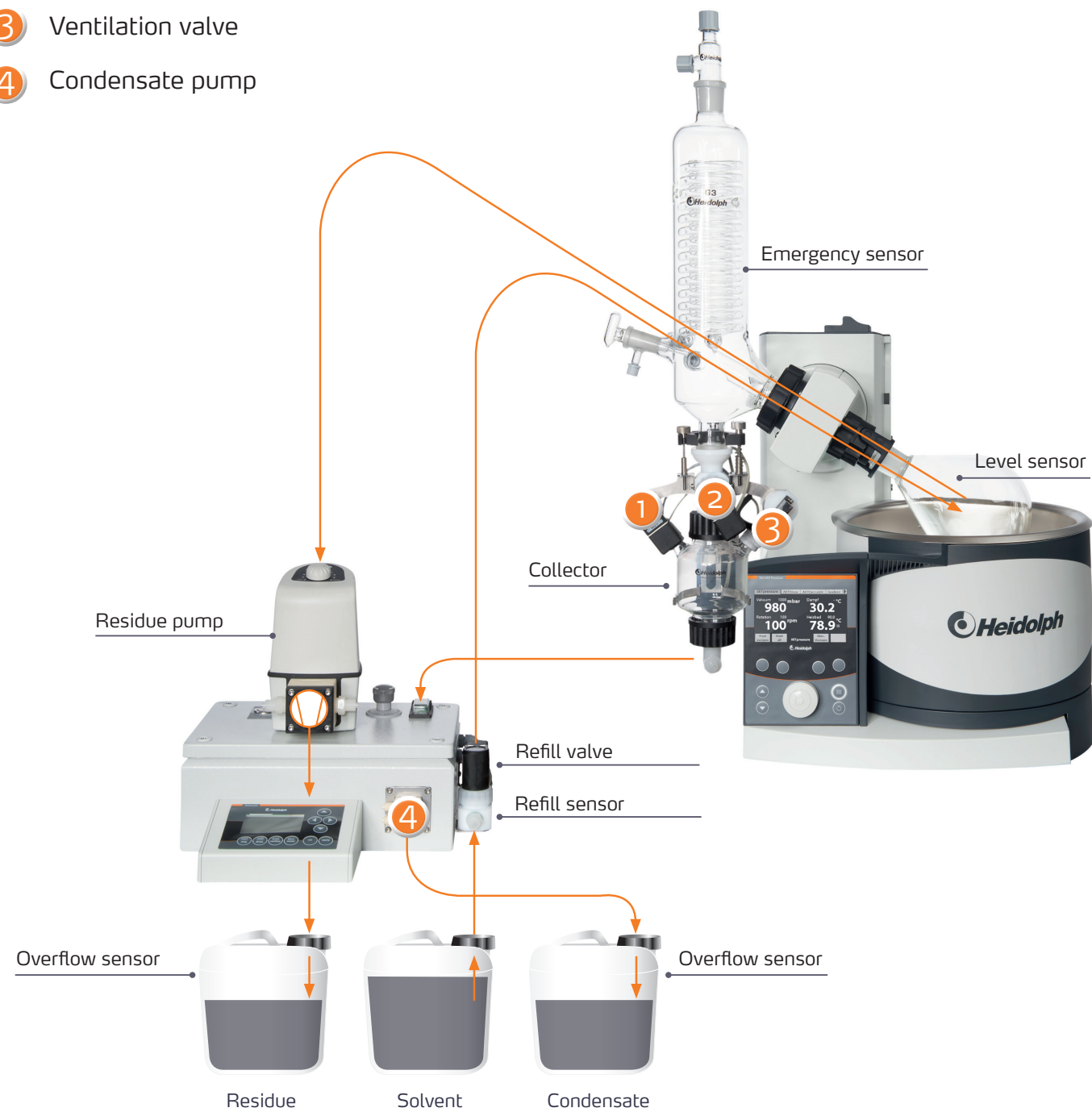
Hei-VAP Industrial Distimatic including automatic drainage of residue and adaptor piece for glassware set R
P/N 591-55000-00

Hei-VAP Industrial Distimatic without automatic drainage of residue
P/N 591-52000-00

➤ Functional Principle

Hei-VAP Distimatic including automatic drainage of residue

- ➊ Vacuum valve
- ➋ Collector valve
- ➌ Ventilation valve
- ➍ Condensate pump



Rate of evaporation at continuous operation

- Reach outstanding evaporation rates of up to **6,5 l/h** with the Hei-VAP Distimatic

➤ Hei-VAP Distimatic Packages

Hei-VAP Distimatic Packages including automatic drainage of residue

All packages include: Hei-VAP Rotary Evaporator with coated, vertical glassware G9B and automatic module Hei-VAP Distimatic including automatic drainage of residue

Package	P/N
Hei-VAP Value Distimatic Package 1	560-01914-00
Hei-VAP Advantage Distimatic Package 1 - hand lift	561-01914-00
Hei-VAP Precision Distimatic Package 1 - hand lift	563-01914-00
Hei-VAP Value Digital Distimatic Package 1	560-01914-20
Hei-VAP Advantage Distimatic Package 1 - motor lift	562-01914-00
Hei-VAP Precision Distimatic Package 1 - motor lift	564-01914-00

Hei-VAP Distimatic Packages without automatic drainage of residue

All packages include: Hei-VAP Rotary Evaporator with coated, vertical glassware G3B and automatic module Hei-VAP Distimatic without automatic drainage of residue

Package	P/N
Hei-VAP Value Distimatic Package 2	560-01313-00
Hei-VAP Advantage Distimatic Package 2 - hand lift	561-01313-00
Hei-VAP Precision Distimatic Package 2 - hand lift	563-01313-00
Hei-VAP Value Digital Distimatic Package 2	560-01313-20
Hei-VAP Advantage Distimatic Package 2 - motor lift	562-01313-00
Hei-VAP Precision Distimatic Package 2 - motor lift	564-01313-00

➤ Hei-VAP Industrial Distimatic Packages

Hei-VAP Industrial Distimatic Packages including automatic drainage of residue

All packages include: Hei-VAP Industrial S and Hei-VAP Industrial automatic module with automatic drainage of residue

Package	P/N
Hei-VAP Industrial S Distimatic Package 1 Glassware A	518-13154-00
Hei-VAP Industrial S Distimatic Package 1 Glassware A2	518-14154-00
Hei-VAP Industrial S Distimatic Package 1 Glassware R	518-11155-00

Hei-VAP Industrial Distimatic Packages without automatic drainage of residue

All packages include: Hei-VAP Industrial S and Hei-VAP Industrial automatic module without automatic drainage of residue

Package	P/N
Hei-VAP Industrial S Distimatic Package 2 Glassware A	518-13152-00
Hei-VAP Industrial S Distimatic Package 2 Glassware A2	518-14152-00
Hei-VAP Industrial S Distimatic Package 2 Glassware R	518-11152-00

Technical Specifications - Automatic Module Distimatic

Model	Hei-VAP Distimatic without drainage of residue	Hei-VAP Distimatic including drainage of residue
P/N (230 V)	591-51000-00	591-53000-00
Compatibility (Rotary Evaporators)	Hei-VAP and Laborota 4000 series *	Hei-VAP and Laborota 4000 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	no	yes
Power input control box (VA)	50	50
Noise level (dB(A))	< 80	< 80
Total power multiple switched socket (W)	3,500	3,500
Weight (kg)	5	5
Measurements without mounted components (W x D x H) (mm)	300 x 200 x 120	300 x 200 x 120
Permissible ambient temperature	5 – 31 °C at 80 % rel. humidity 32 – 40 °C linearly declining to max. 50 % rel. humidity 0 - 2000 m a.s.l. Contamination level 2 Overvoltage category II	5 – 31 °C at 80 % rel. humidity 32 – 40 °C linearly declining to max. 50 % rel. humidity 0 - 2000 m a.s.l. Contamination level 2 Overvoltage category II
Protection class (DIN EN 60529)	IP 54	IP 54

Model	Hei-VAP Industrial Distimatic without drainage of residue	Hei-VAP Industrial Distimatic including drainage of residue
P/N (230 V)	591-52000-00	591-54000-00 Glassware A / A2 591-55000-00 Glassware R
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	no	yes
Power input control box (VA)	50	50
Noise level (dB(A))	< 80	< 80
Total power multiple socket (W)	3,500	3,500
Weight (kg)	5	5
Measurements without mounted components (W x D x H) (mm)	300 x 200 x 120	300 x 200 x 120
Permissible ambient temperature	5 – 31 °C at 80 % rel. humidity 32 – 40 °C linearly declining to max. 50 % rel. humidity 0 - 2000 m a.s.l. Contamination level 2 Overvoltage category II	5 – 31 °C at 80 % rel. humidity 32 – 40 °C linearly declining to max. 50 % rel. humidity 0 - 2000 m a.s.l. Contamination level 2 Overvoltage category II
Protection class (DIN EN 60529)	IP 54	IP 54

All shown values relate on Automatic Module Distimatic without any external accessory parts
* Also compatible to some models of other manufacturers. To check the compatibility please contact your dedicated Heidolph contact person

Certificate

To confirm the ability for
continuous operation
of the Automatic Module Distimatic

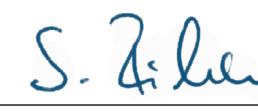
The Automatic Module Distimatic features overtemperature safety circuits according to DIN EN 61010-1:2001 and DIN EN 61010-2-010:2003 and therefore is designed for continuous operation.

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.

Schwabach, January 2013



i. V. Jan Welzien
Technical Director



i. V. Stefan Richter
Quality Control Director