

Multivapor™



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Multiply your Rotavapor®

The Multivapor™ is a compact 6 or 12 position parallel vortex evaporator that is designed to optimize existing personal process workflows. When used in combination with the Rotavapor® a unique increase in functionality is observed, as is an expansion of synergy with an impressively small footprint. In the absence of a Rotavapor® the Stand-alone Setup provides a comprehensive, sophisticated and independent evaporation system.



The Rotavapor® Setup – expand synergy, reduce space

In a large number of laboratories, several rotary evaporators are used to cope with the ever increasing demand of high sample throughput. The Multivapor solves this problem by heating individually sealed samples and transferring the vapor to the condenser assembly of the rotary evaporator. This concept increases the flexibility of the Rotavapor whilst reducing the total evaporation time. Hence, excellent time and resource savings are achieved on a minimal footprint.

- save time: evaporate 6 x 150 ml or 12 x 30 ml in parallel
- create synergy and reduce costs: one condenser, vacuum and chiller assembly for two instruments
- maximize bench space: 27 x 40 cm (footprint) extra space
- operate safely: no cross-contamination due to individual seals and vapor channels



The Stand-alone Setup – a comprehensive benchtop solution

The Stand-alone Setup features a separate condenser. It requires a peripheral vacuum source with controller. The EasyVac Bundle vacuum system is a low-price solution for straightforward automatic distillation, whereas the sophisticated Professional Bundle allows complex programmed pressure profiles, automatic distillation, repeat functions and much more. With the Buchi vacuum systems even complex and delicate mixtures are easily, safely (no bumping) and efficiently evaporated.

- save time: automatic distillation, stored pressure profiles
- comprehensive solution: optimal interaction between Multivapor and peripherals
- be independent: personal setup without interference with other processes



In contrast to nitrogen blow-down evaporators, evaporation under vacuum is in accordance with the regulations of ISO 14000 that guarantees the smallest possible negative impact on the environment.

Improve your personal process workflow

The Multivapor™ is designed to fit into particular process workflows where evaporation of multiple samples is considered a bottleneck. A flexible sealing system with a series of specific adapters covers a broad range of common glassware, rendering the time-consuming sample transfer steps obsolete.

Extraction Samples

With modern fast extraction techniques such as PSE or ASE, parallel Soxhlet or hot extraction setups, a number of samples are accumulated within a short period of time and evaporated in one run.



Reaction samples

Evaporation of samples produced from personal reaction stations or microwave syntheses is easily achieved in the same reaction tubes.

P-6: 6x150 ml P-12: 12x30 ml

Chromatography samples

Fractions collected in test tubes can either be directly evaporated using the P-12, or pooled first in the larger vessel of the P-6.

Analysis

Multivapor™: explore new

Visible processing

Six or twelve transparent glass cylinders filled with water act as individual heating baths, accommodating a wide variety of vessel types with up to 6 x 150 ml or 12 x 30 ml working volume, providing optimal heat transfer. Furthermore, the samples are visible throughout the whole evaporation process.



Easy to handle

The temperature and orbital movement settings are each adjusted with a knob. The setpoint and actual temperature is shown on a display. No other adjustments e.g. balance compensation or eccentricity are necessary. Additionally, when used in combination with the sophisticated vacuum controllers V-801/855 the whole distillation process is performed automatically.



Safe and simple sample preparation

The sample preparation rack in combination with the transfer rack provides a suitable tool to prepare all samples in advance and to transfer the whole assembly into the evaporation rack. Therefore, exposure to the heating medium is minimized and every sample is equally conditioned.



feel comfortable



save time

High throughput

Specific adapters are available for a number of different sample vessels in order to allow the instrument to integrate into existing process workflows. The vessels vary in shape, length and diameter. All adapters of the same format (e.g. P-12) can be mixed arbitrarily in the transfer rack. A comprehensive list is shown in the Multivapor Adapter Guide.



ways in parallel evaporation



Small footprint

Particularly when combined with the Rotavapor, the instrument requires minimal bench top space. The footprint of the Multivapor is 27 x 40 cm.

do not waste space



safe and sound

Safe and environmentally sound

The vapor transferred via the vacuum hose is condensed in either a cold trap, a coiled condenser or the condenser assembly of the Rotavapor. P+G coating and an optional safety shield provides effective protection in case of glassware breakage. Evaporation under vacuum is in compliance with the ISO 14000 certification, denoting the smallest possible negative impact on the environment.



Foam protection

In order to reduce contamination of the vacuum cover by foaming and splashing or boiling retardation, an optional porous PE frit can be placed in the vessel adapter closing the vapor duct. This measure also allows sample adsorption onto silica for subsequent chromatographic purposes.



No cross-contamination

Each sample is independently connected to the vacuum cover. The vapor is transferred in grooved channels to prevent cross-contamination to the adjacent samples. The standard cover consists of PETP which is suitable for most applications. For very harsh conditions on a regular basis, PEEK is the recommended alternative (e.g. for TFA, TCA, HCl or NaOH).



Accessories

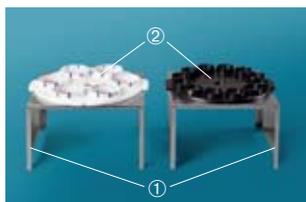
Evaporation units



Set comprising the crystal rack and the vacuum cover. Vacuum covers are available in PETP or PEEK.

| | Order no. | |
|------------------|-----------|-------|
| Evaporation unit | PETP | PEEK |
| P-12 | 49613 | 48844 |
| P-6 | 49770 | 49772 |

Preparation/Transfer racks



Preparation ① and transfer rack ② for convenient sample preparation.

| | Order no. | |
|------------------|-----------|-------|
| | P-6 | P-12 |
| Preparation rack | 49783 | 49755 |
| Transfer rack | 49250 | 49251 |

Safety shield



Transparent polycarbonate safety shield covering the evaporation unit for additional protection in the event of implosion or explosion.

| | Order no. |
|---------------|-----------|
| Safety shield | 48784 |

Wouff bottle set



Trap to be fixed on the rear of the instrument that collects any condensate before it reaches the condenser. Holder and additional hose included.

| | Order no. |
|------------------|-----------|
| Wouff bottle set | 48857 |

Glassware and corresponding adapters



Selection of sample tubes with their corresponding adapters. The full range is listed in the Adapter Guide. A set of seals is included in the adapter set. Further seals are recommended as spare part.

| | Sample tubes available from Büchi: | | Adapter set** | | Seals** |
|------|------------------------------------|-------|---------------|-------|------------|
| | | | PETP | PEEK | |
| P-12 | ① Büchi tube P-12, 60 ml (25 pcs) | 49662 | 48870 (12) | 48855 | 48853 (12) |
| | ② ASE/PSE tube, 60 ml (72 pcs) | 49535 | 48870 (12) | 48855 | 48853 (12) |
| | ③ Test tube ø 25 mm (50 pcs) | 38469 | 48873 (12) | * | 49733 (12) |
| | ④ Test tube ø 20 mm (100 pcs) | 42845 | 48778 (12) | * | 48779 (12) |
| | ⑤ Test tube ø 16 mm (100 pcs) | 38543 | 48770 (12) | * | 48773 (12) |
| P-6 | ⑥ Büchi tube P-6, 220 ml (6 pcs) | 49774 | 49761 (6) | 49779 | 49764 (6) |
| | ⑦ ASE/PSE tube, 240 ml (6 pcs) | 52672 | 49716 (6) | * | 48853 (12) |
| | ⑧ ASE/PSE tube, 60 ml (72 pcs) | 49535 | 49692 (6) | * | 48853 (12) |

* available on request

** number of items included in the set given in brackets

Adapter accessories



Colored O-rings used to label different adapters. Porous PE frits for foam and splash protection, e.g. for sample adsorption onto silica.

| Accessoires | Order no. |
|-----------------------------------|-----------|
| ① Green label rings P-12 (12 pcs) | 49617 |
| ① Black label rings P-12 (12 pcs) | 49618 |
| ② Set of PE frits (60 pcs) | 44856 |

Blank adapters



Blank adapters to close vacant positions in the crystal rack. Blank adapters are available in PETP or PEEK.

| | Order no. | |
|----------------|-----------|-------|
| Blank adapters | PETP | PEEK |
| P-12 (12 pcs) | 48791 | 48796 |
| P-6 (6 pcs) | 49729 | 49730 |

Condenser assemblies



P+G coated condenser assemblies with either 1 or 2 l flasks. Type S designates a condenser with a cooling coil and type C with a cold trap.

| | Order no. |
|-------------|-----------|
| Type S, 1 l | 48889 |
| Type S, 2 l | 48890 |
| Type C, 1 l | 48887 |
| Type C, 2 l | 48888 |

Rotavapor® set



Rotary evaporator connection interface comprising of a vacuum hose, clip and T-piece for the Rotavapor combination.

| | Order no. |
|---------------|-----------|
| Rotavapor set | 48740 |

Vacuum system V-700/850



Chemically resistant PTFE diaphragm pump with final vacuum of < 10 mbar, sec. condenser, Wouff bottle and V-850 controller for accurate vacuum control.

| | Order no. |
|-------------------|-----------|
| V-700 | 71000 |
| V-700/850, type S | 71211 |
| V-700/850, type C | 71212 |

Recirculating chillers



Recirculation chillers for operation with type S condensers with a minimum temperature of -10 °C (B-740) or 10 °C (B-741), respectively.

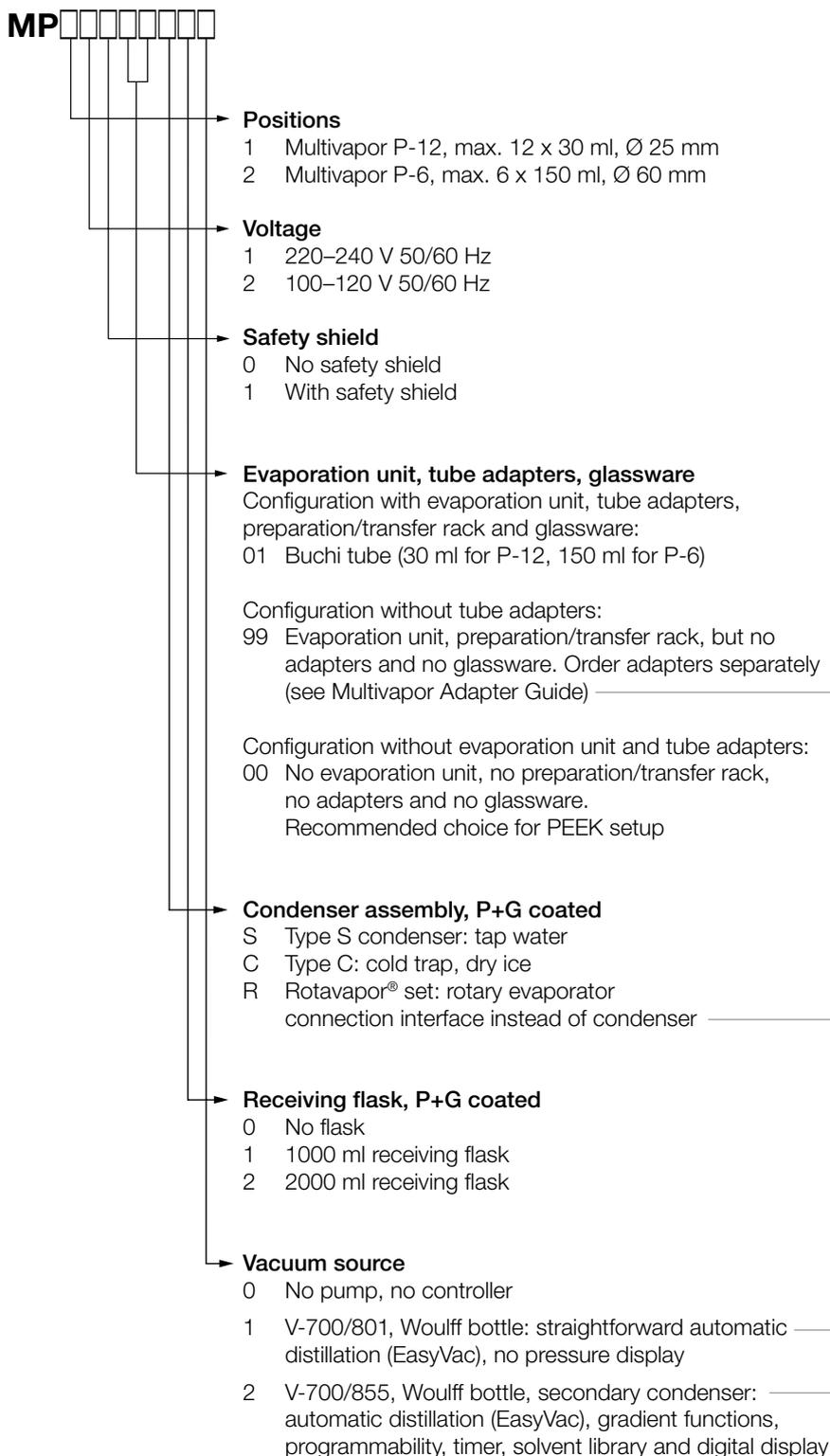
| | Order no. | |
|------------------------|-----------|------|
| Recirculating chillers | PETP | PEEK |
| B-740, 800W, 220-240V | 37740 | |
| B-741, 500W, 100-120V | 46772 | |
| B-741, 500W, 240V | 46770 | |

Please note: PETP (polyethylterephthalate) is the standard material for the vacuum cover and tube adapters.

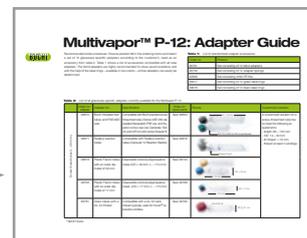
For very harsh conditions on a regular basis (e.g. TFA, TCA, HCl or NaOH), PEEK (polyetheretherketone) is recommended as alternative.

Ordering information

With the ordering matrix any personal configuration including the vacuum pump and controller can be compiled into a bundle. All evacuated glass parts – except the sample vessels – are P+G coated to provide maximum safety. PETP is the standard material for the cover and adapters.



Adapter guide



Leaflet with all available tube adapters to combine with specific sample tubes.

Multivapor™ Rotavapor®



Solution for combining with an already existing rotary evaporator.

Multivapor™ EasyVac



No-frills straightforward solution for automatic distillation with EasyVac (V-801). No pressure display, no sec. condenser.

Multivapor™ Professional

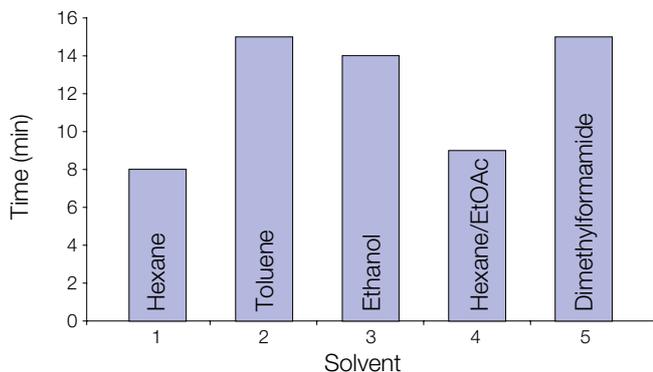


Comprehensive solution for automatic distillation, sophisticated vacuum control with pressure profiles, repeat function, sec. condenser and much more...



Find the latest version on:
www.buchi.com → parallel evaporation → Multivapor

Performance data

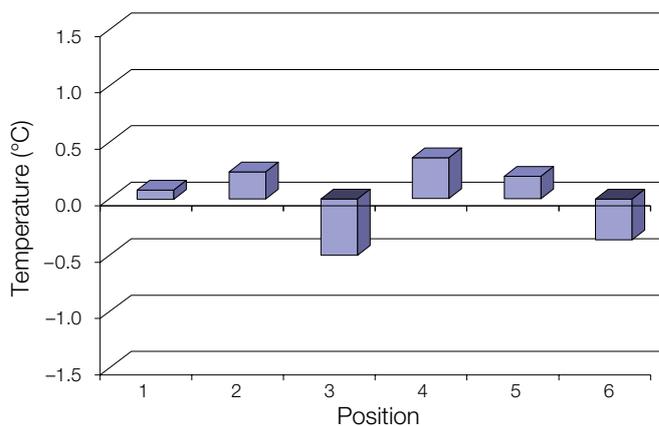


Conditions:

Volume: 12 x 25 ml; temperature settings: 50 °C rack (80 °C for DMF), 5 °C condenser; vacuum settings: optimized gradient for each sample using the controller V-855. A detailed comprehensive list of applications is collected in the Multivapor Application booklet on the internet: www.buchi.com → parallel evaporation.

Temperature distribution

A uniform temperature distribution across all positions allows reproducible conditions with minimal deviation.



Conditions:

12 x 30 ml water; temperature measured in equilibrium at 50 °C rack temperature.

Technical data

| | |
|---------------------------------|--|
| Dimensions (W x H x D) | 270 x 400 x 400 mm |
| Weight | 22 kg for P-6; 21 kg for P-12 |
| Power consumption | max. 800 W |
| Electrical requirements | 100–120 VAC or 220–240 VAC ± 10% 50/60 Hz |
| Temperature range | ambient –95 °C |
| Temperature deviation | ± 3 °C max. (instrument calibrated at 20 °C) |
| Orbital movement | 0–370 rpm for P-6; 0–485 rpm for P-12 |
| Possible tube dimensions | OD 16–60 mm, L 110–150 mm for P-6; OD 15–30 mm, L 15–150 mm for P-12 |
| Working volumes | 10–160 ml for P-6; 0.5–30 ml for P-12 |
| Material in contact with sample | PETP (or PEEK alternatively), PTFE, PFA, glass |
| Safety class | IP21 |
| Approvals | CE |

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