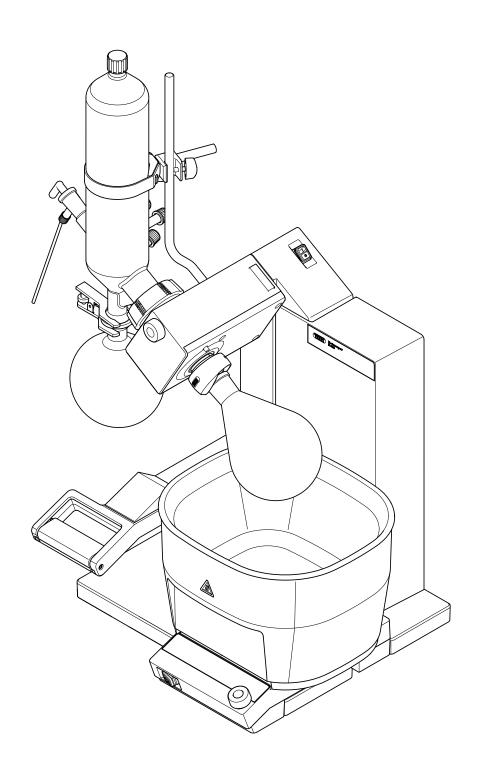


Rotavapor® R-300 Technical data sheet

The Rotavapor® R-300 meets the highest expectations in convenience and versatility for rotary evaporation. Its modular design allows for easy extension of the R-300 to a fully integrated system where a central interface regulates each component.



Overview of Rotavapor® R-300 stand-alone and systems

	Rotavapor® R-300	System "Rotavapor® Dynamic"
Rotavapor® R-300 / R-300 Hand Lift**	1	1
Heating Bath B-301 / B-305**	*	1
Interface I-300 / I-300 Pro (incl. VacuBox)**	*	1
Vacuum Pump V-300	-	1
Recirculating Chiller F-305 / F-308**	-	*

^{*} optional, according to order code

Rotavapor® R-300

The Rotavapor® R-300 represents high reliability and convenience in laboratory rotary evaporation applications. The Rotavapor® R-300 is available with either an electronic or manual lift, and can optionally include the Heating Bath B-301 or B-305 and, a glass assembly of your choice and the Interface I-300 or I-300 Pro.

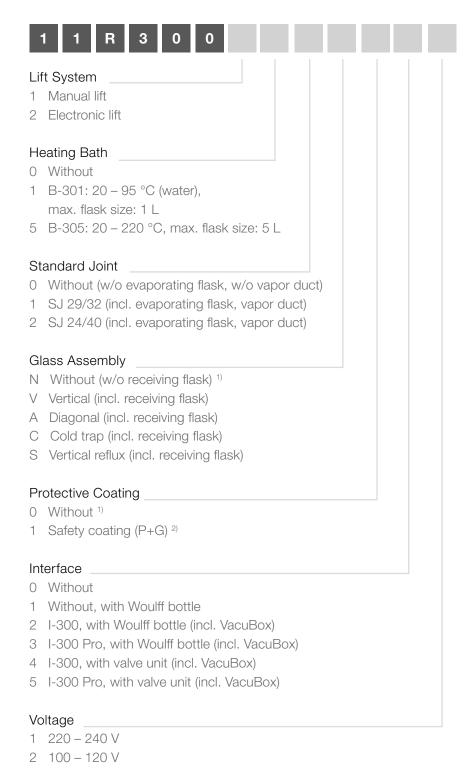
All accessories and connections are included for out of the box usage.

^{**} according to order code

Order code

Choose the configuration according to your needs:

Rotavapor® R-300



¹⁾ If glass assembly E, CR or BY is required, for Glass Assembly select "N", for Standard Joint select either "1" or "2" and for Protective Coating select "0" (vapor duct and evaporating flask are included). Glass assembly E, CR or BY need to be ordered separately.

^{2) &}quot;Safety coating (P+G)" applies to condenser and receiving flask

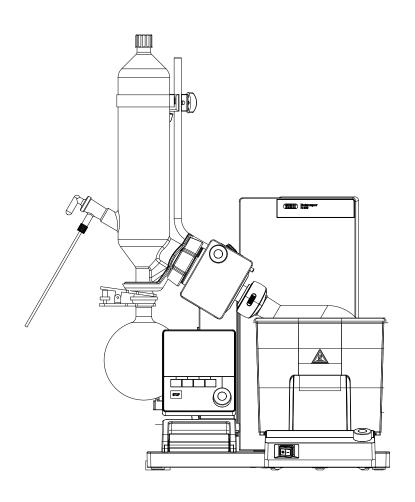
Scope of delivery of Rotavapor® R-300

All configurations are delivered ready to use and are complete of:

Components	Rotavapor® R-300
Rotavapor® R-300 / R-300 Hand Lift**	1
Heating Bath B-301 / B-305**	*
Glass assembly**	*
Vapor duct (with Combi-Clip)	**
Vacuum seal (WD26)	1
Evaporating flask (1 liter)	**
Receiving flask (1 liter)	**
Flyer "List of solvents"	1
Set of required cooling tubings	**
Power cable (1 for heating bath, 1 for Rotavapor®)	**
Interface I-300 / I-300 Pro**	*
VacuBox	*

^{*} optional, according to order code

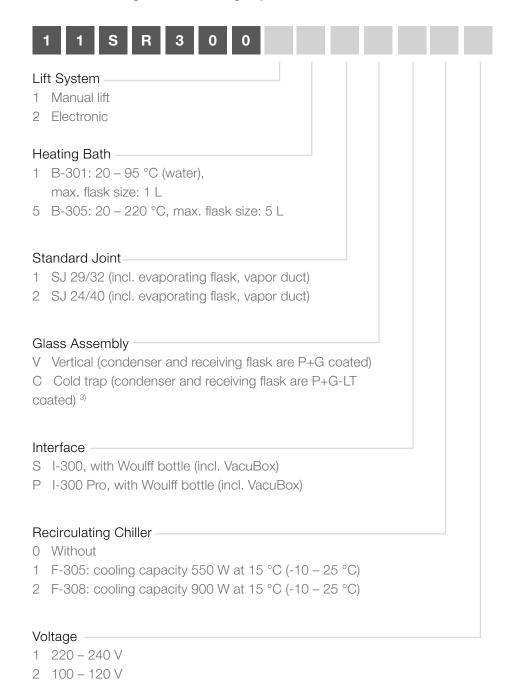
^{**} according to order code



System "Rotavapor® Dynamic"

The rotary evaporator R-300 system meets the highest expectations in convenience and versatility. It is bundled with the Vacuum Pump V-300, controlled by the Interface I-300 / I-300 Pro and can include the Recirculating Chiller F-305 / F-308. The interface is the central control unit for all process parameters. Rotation speed, heating-, cooling-, vapor-temperature and pressure are perfectly synchronized to optimize the distillation process while increasing efficiency and convenience. All the "Rotavapor® Dynamic" systems are P+G coated. All accessories and connections are included for out of the box usage.

Choose the configuration according to your needs:



 $^{^{\}mbox{\tiny 3)}}$ When ordering the glass assembly C, a recirculating chiller is not needed

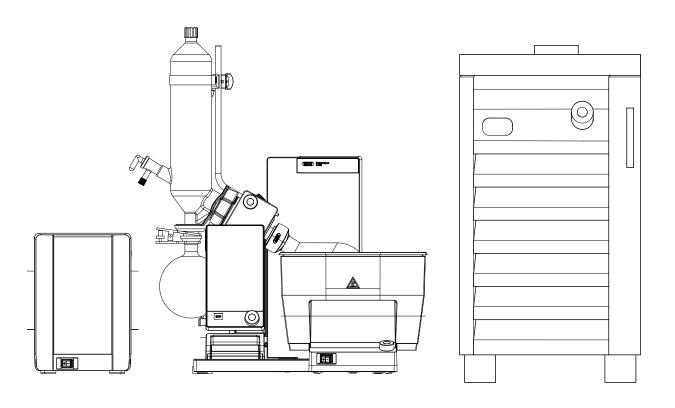
Scope of delivery of "System Rotavapor® Dynamic"

All configurations are delivered ready to use and are complete of:

Components	"System Rotavapor® Dynamic"
Rotavapor® R-300 / R-300 Hand Lift**	1
Heating Bath B-301 / B-305**	1
Glass assembly	1
Vapor duct (with Combi-Clip)	1
Vacuum seal (WD26)	1
Evaporating flask (1 liter)	1
Receiving flask (1 liter)	1
Flyer "List of solvents"	1
Set of required cooling and vacuum tubings	1
Set of required power cables	1
Interface I-300 / I-300 Pro**	1
VacuBox	1
Vacuum Pump V-300	1
Recirculating Chiller F-305 / F-308**	*

^{*} optional, according to order code

^{**} according to order code



Technical data

Rotavapor® R-300

Dimension (WxHxD) Instrument Shipping box	400 x 615 x 320 mm 700 x 605 x 590 mm
Weight	13.5 kg (electronic lift) 13.0 kg (manual lift)
Connection voltage	100 – 240 VAC
Power consumption	100 W
Frequency	50/60 Hz
Protection class	IP21
Immersion angle adjustable	40 °
Stroke distance	220 mm
End stop position adjustment range	170 mm (electronic lift) 100 mm (manual lift)
Rotation speed	10 – 280 rpm
Maximum flask load	3 kg
Approvals	CE/CSA

Heating Bath B-300 Base

Dimension (WxHxD)	183 x 82 x 286 mm
Weight	0.8 kg
Connection voltage	100 – 120 V / 220 – 240
Frequency	50 – 60 Hz
Power consumption (with bath)	1500 W
Protection class	IP21
Approvals	CE/CSA

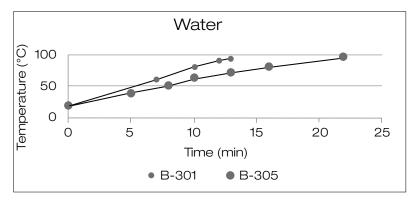
	Heating Bath B-301 Bath	Heating Bath B-305 Bath
Dimension (WxHxD)	218 x 192 x 205 mm	307 x 202 x 275 mm
Weight	2.0 kg	4.2 kg
Operation voltage (according to order code)	100 – 120 V 220 – 240 V	100 – 120 V 220 – 240 V
Frequency	50 – 60 Hz	50 – 60 Hz

	Heating Bath B-301 Bath	Heating Bath B-305 Bath
Power consumption	1250 W	1500 W
Heating Power	1100 W	1300 W
Protection class	IP21	IP21
Controlled temperature range	ambient to 95 °C	ambient to 220 °C
Maximum flask size	1000 mL	5000 mL
Adjustment accuracy	± 1 °C	± 1 °C
Temperature deviation	at 60 °C ± 1 °C at 95 °C ± 1 °C	at 60 °C ± 1 °C at 95 °C ± 1 °C at 180 °C ± 3 °C at 220 °C ± 4 °C
Heating media	water	water / oil
Approvals	CE/CSA	CE / CSA

Heating bath performance

Heating-up time of Heating Bath B-301 and B-305

	Wa	ater	Oil (Ucon HTF 14)
	50 °C	95 °C	180 °C	220 °C
B-301	4 min	13 min		
B-305	8 min	22 min	27 min	37 min



 $\Delta T_{\rm 70\,^{\circ}C\,(water)}\colon \text{B-301} \to \text{13 min; B-305} \to \text{22 min}$

Special features

Rotavapor® R-300

End stop positioner	Adjustable via button within a range of 170 mm (electronic) / 100 mm (manual) Prevents glass breakage and damages to heating bath pan
Patented multifunctional Combi-Clip	Tool for evaporating flask fixation and removal, as well as vapor duct release Allows one handed flask removal

Rotavapor® R-300

Immersion angle adjustable	Adjustable within 7-stages enables the use of different flask sizes, adjustable for individual application
Safety stop (electronic lift only)	Automatic operation stop by power failure Lifts flask automatically out of heating bath
2 lift speeds	Moves quickly until 2 cm above close to depth stop, it than moves slowly to depth stop Allows a smooth operation
Earthquake safety	Lug on backside for bath and Rotavapor® Enables fixation on lab bench
Lift height indication	Position is digitally indicated on display of heating bath Allows reproducibility of parameter for future applications
Color code	Green cables indicate BUCHI communication cable, marked with "COM" Allows a simple understanding of set up and easy play & plug
Large top hole V-condenser	Top hole with screw cap (SVL22) Allows easy cleaning of condenser
Ergonomic handle	Electronic and manual version available Allows to conveniently change the position of lift
Display	Rotation speed, heating temperature, lift position (set and actual value) displayed on Heating Bath B-300 Base Allows user to monitor all parameters at a glance

Heating Bath B-301 / B-305

Universal use (B-305 only)	Useable for multiple applications up to 220 °C Allows the use of water and oil as a heating media
Over heat protection	Mechanical and electronic over-temperature control Cuts off power when actual exceeds set temperature and by rapid temperature increase
Carry handles	Two integrated laterally ergonomically designed carry handles Allows easy carrying for re-filling or emptying the heating bath, without the risk of burn
Bath guidance	Integrated in Heating Bath B-300 Base Allows an easy positioning of bath along horizontal axe, for individual application
Temperature limit fixation (B-305 only)	Desired maximum temperature can be fixed at 95 °C, 180 °C or 220 °C Prevents accidental change of set temperature when water is used as heating media
Key-button locking functions	To lock the set temperature of the heating bath Prevents accidental change of set conditions during process
Infrared communication	Transition of heating bath data to interface Allows immaculate, fast communication

Heating Bath B-301 / B-305

Kettle connection	Cordless bath Allows easy emptying and refilling of bath without unplugging
Heating Bath B-300 Base extendable	Functional with two different heating baths Allows the use of B-301 or B-305, adequate to application
LCD-display	Digital, displays all operating parameters Indicates set and actual values of heating bath temperature, rotation speed and lift position

Optional accessories

Protection shield	Special shaped, robust shield for user protection enables handling on evaporating flask while being protected
Top cover for heating bath	To cover B-305 when not in use to safe energy and for less evaporation of heating medium, no drip off, convenient handle prevents burning skin

Complementary products

	Pump V-300	Chiller F-305	Chiller F-308
R-300	autonomous	manually controlled	manually controlled
R-300 with I-300 / I-300 Pro and VacuBox*	speed controlled	controlled	controlled

^{*}To connect a Vacuum Pump V-300 and a Recirculating Chiller F-305 or F-308 to an Interface I-300 or Interface I-300 Pro a VacuBox is needed. A VacuBox is included when ordering a Rotavapor® R-300 with an Interface I-300 or Interface I-300 compatibility pack.

Compatibility of older generation's peripherals

	Pump V-300	Pump V-700 / V-710	Pump V-100	Chiller F-100	Chiller F-105 / F-108
R-300	autonomous	autonomous	autonomous	autonomous	manually controlled
R-300 with I-300 / I-300 Pro	speed controlled	regulated*	regulated*	autonomous	
R-300 with I-300 / I-300 Pro and LegacyBox	speed controlled (no need of LegacyBox)	speed controlled	regulated	regulated	regulated
R-300 with I-100	regulated	regulated	regulated	autonomous	regulated
R-300 with V-850 / V-850	regulated	regulated	regulated	autonomous	regulated

To connect the Vacuum Pump V-100 or V-710 and the Recirculating Chiller F-100 or F-105 to the Interface I-300 or Interface I-300 Pro a Vacubox and a LegacyBox is needed. A VacuBox is included when ordering a Rotavapor R-300 with Interface I-300 or an Interface I-300 compatibility pack.

Explanation of terms

Autonomous:	the peripheral (chiller / pump) can be turned On and Off by its own power switch only
Regulated:	the peripheral (pump and chiller) is automatically turned On and Off via interface -> ON/Off communication
Speed controlled:	the peripheral (pump) is turned On and Off as well as speed controlled via the interface
Manually controlled:	the parameters can be adjusted via the peripherals control buttons
Controlled:	the temperature of the chiller can be also set via interface (bi-directional)

Exemplary solutions

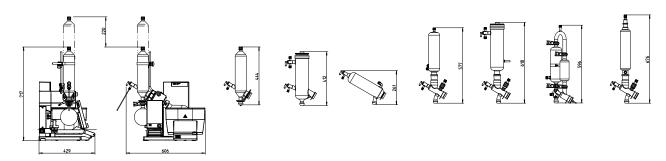
The following items are listed on two solutions, shown in the "Laboratory Rotary Evaporation Solutions" brochure.

Solution "Rotavapor® Dynamic Pro"	Order number
Rotavapor® R-300, condenser V, SJ 29/32, P+G safety coating, Heating Bath B-305, Interface I-300 Pro, VacuBox, Vacuum Pump V-300, Recirculating Chiller F-308 (220 – 240 V version)	11SR300251VP21
Foam sensor	11061167
AutoDest sensor	11059225
Level sensor	11060954
Solution "Rotavapor® Dynamic"	Order number
Solution "Rotavapor® Dynamic" Rotavapor® R-300, condenser V, SJ 29/32, P+G safety coating, Heating Bath B-301, Interface I-300, VacuBox, Vacuum Pump V-300 (220 – 240 V version)	Order number 11SR300211VS01

Accessories - Rotavapor® glass assemblies

The following items have to be purchased in addition to a system that is ordered without glass.

All glass assemblies include a 1 liter receiving flask (corresponding to order code - either without coating, with P+G or P+G-LT), required hoses and a ball joint clamp. Evaporating flask, vacuum seal, vapor duct (WD26) and condenser holder are not included. All condensers allow feeding of the evaporating flask via stopcock.

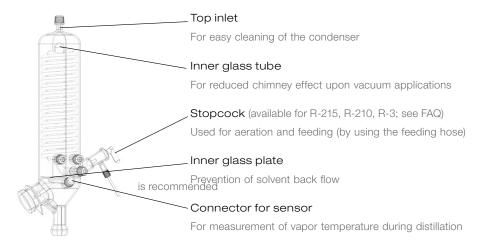


Abbr./ Name	Type / Application	Cooling surface area (max.)	Order code
Vertical	Vertical condenser	1500 cm ²	11062432
7777	 For standard applications, the most common condenser Connection for vapor temperature sensor Automatic distillation with Interface I-300 / I-300 Pro possible Use of foam sensor possible 		11062433 P+G
Diagonal	Diagonal condenser	1500 cm ²	048168
	· For standard applications where height is limited		048169 P+G
Cold trap	Dry ice condenser	500 cm ²	040640
	 For distillation of solvents with low boiling points Maximum condensation of vapors No cooling water needed, but i.e. dry ice or ice Use of foam sensor possible 		040642 P+G
Reflux	Vertical reflux condenser with shut-off valve	1500 cm ²	048290
	 For combining reflux reaction and distillation Connection for vapor temperature sensor Automatic distillation with Interface I-300 / I-300 Pro possible Use of foam sensor possible 		048291 P+G-LT
Cold trap	Dry ice condenser with shut-off valve	500 cm ²	048292
reflux	 For combining reflux reaction and distillation For distillation of solvents with low boiling points Maximum condensation of vapors Connection for vapor temperature sensor No cooling water needed, but i.e. dry ice or ice Use of foam sensor possible 		048293 P+G-LT
Expansion	Descending condenser with expansion vessel	1500 cm ²	11061112
905	 Ideal for distillations exhibiting foaming and "bumping" tendencies/products Connection for vapor temperature sensor Automatic distillation with Interface I-300 / I-300 Pro possible 		11061113 P+G

Abbr./ Name	Type / Application	Cooling surface area (max.)	Order code
Double jacket	Vertical reflux condenser with double jacket for intensive condensation and with shut-off valve Vertical intensive condenser with double jacket and distributor for particularly efficient condensation For combining reflux reaction and distillation For particularly efficient and intensive condensation Connection for vapor temperature sensor With an additional SJ 29/32 joint on top for flexible expansion Use of foam sensor possible	1300 cm ²	048176 048297 P+G

For more information concerning the glass assemblies please check the "Laboratory Evaporation Glassware" brochure.

Features of the glass assemblies



Characteristics	V	С	Α	CR	S	Е	BY
Top inlet	(SVL22; extra large)		•		•	•	•
Inner glass tube	•				•		
Flask feeding via stop- cock possible	•	•	•	•	•	•	•
Inner glass plate	•						
Connector for vapor temperature sensor	•				•	•	•
Condenser holder	1	1	1	1	1	•	1
Reflux possibility (part included)				•	•		•
Condensate trap	•						

Rotavapor® accessories

	Order number
Adapter B-300. For Heating Bath B-305 Required when Heating Bath B-305 is used with a Rotavapor® R-210, R-215 or R II. Heating Bath B-301	11061317
does not fit.	
Vapor temperature sensor. Incl. cap nut. seal GL14	11060707
Measures the vapor temperature inside the system. Meant to be used with the Interface I-300/I-300 Pro.	
AutoDest sensor. Incl. cap nut, seal GL14 For automatic distillation. Measures temperature of cooling media. Vacuum is adjusted according to cooling capacity of condenser. Meant to be used with the Interface I-300/I-300 Pro and glass assembly V or S.	11059225
Foam sensor. Incl. holder Prevents sample from foaming into the condenser by aeration of system temporarily. Meant to be used with the Interface I-300/I-300 Pro.	11061167
Lid. For Heating Bath B-305 To safe energy and to minimize loss of water when heating bath is not in use.	11059500
Set earthqake fastener. Lug for backside To fasten Rotavapor® on lab bench.	11062386
Extraction unit Soxhlet. 200 mL, incl. extraction part, reduction part For Soxhlet extraction applications, Meant to be used with glass assembly S.	011744
Extraction unit Soxhlet. 500 mL, incl. extraction part, reduction part For Soxhlet extraction applications. Meant to be used with glass assembly S.	011745
Extraction thimbles. set. 25 pcs, 200 mL, cellulose For Soxhlet extraction unit.	018106
Flange screwed connection. For glass assembly V/C/A Content: Flange nut, pressure spring	048237
Level sensor. Incl. O-ring, cable, rubber band Prevents an overflow in the receiving flask of condenser/secondary condenser. Placed on receiving flask. Meant to be used with a Interface I-300/I-300 Pro.	11060954
Holder. For extraction unit, steel, 750 mm, Ø12 mm	011904
Communication cable. Mini-DIN to RJ45, 1.5 m Connection between Vacuum Controller V-850/V-855 and Vacuum Pump V-300 or between Vacuum Controller V-850/V-855 and Recirculating Chiller F-3xx.	11060649
Condensate trap. Grey, TPE, for condenser V, hose connector Ø8 mm Collects and drains condensate which may accumulate at the condenser.	11062955
Condensate trap. Green, TPE, for condenser V, hose connector Ø8 mm Collects and drains condensate which may accumulate at the condenser	11061985
Condenser holder. For glass assembly V/C/S/CR/BY Content: Holding rod, rubber band, cross sleve	048180
Cooling water valve. 24 VAC Valve opens cooling water feed during distillation. Meant to be used with a vacuum controller/interface.	031356
Stopcock. For condenser C/CR, glass, SJ18.8/38 For aeration of system. Mounted on vacuum connection at cold trap outer part.	040628
Stopcock. Incl. 3-way valve For feeding for solvents. Content: Introduction hose 300mm, backfeed hose 600mm, cap nut GL10.	11058814

	Order number
Stopcock. Professional, glass, SJ18.8/38 For aeration of system. Less cross-contamination compared to standard-stopcock (040627).	000637
Stopcock. PTFE, SJ18.8/38 For aeration of system. For applications when grease should be avoided. Used instead of standard-stopcock (040627).	023896
Stopcock. Standard, glass, SJ18.8/38 For aeration of system.	040627
Legacybox. Incl. accessory kit Interface between Interface I-300/I-300 Pro (with VacuBox) to peripherals of older generations (Vacuum Pump V-7xx, Recirculating Chiller F-1xx).	11061166
Flask holder. EPDM, slip free Holder for round-bottom flasks (50-5000 mL).	048618
Flask holders. set. EPDM, slip free Holder for round-bottom flasks (50-5000 mL).	11059916
Tubing, FEP. Ø6/8 mm, transparent, per m Use: Vacuum, cooling media	027900
Tubing. Natural rubber, Ø6/16 mm, red, per m Use: Vacuum	017622
Tubing. Synthetic rubber, Ø6/13 mm, black, per m Use: Vacuum	11063244
Tubing. Nyflex, PVC-P, Ø8/14 mm, transparent, per m Use: Vacuum, cooling media, feeding (industrial Rotavapor)	004113
Tubing. PTFE, Ø4.7/5.5 mm, transparent, 330 mm Use: To introduce solvent into evaporating flask during distillation.	000646
Tubing. PTFE, Ø4.7/5.5 mm, transparent, 460 mm Use: To introduce solvent into evaporating flask during distillation.	000643
Tubing. Silicone rubber, Ø6/9 mm, transparent, per m Use: Cooling media	004133
Protection shield. Operator protection for heating bath For Heating Bath B-301 and B-305.	11061402
Heating bath balls. 450 pcs, PP, Ø10 mm To reduce energy consumption of heating bath and for less evaporation of the heating medium. For temperatures up to 100 °C.	036405
Vacuum valve. Magnetic valve, 24V/4W, Mini-DIN, 1.5 m Flow valve without flask, meant to be used with a centralized vacuum source or an unregulated vacuum pump. Meant to be used with the Interface I-300/I-300 Pro.	11060706
Vacuum connection. Incl. drain valve, hose barb Connection piece for aeration of the system, placed between condenser and receiving flask.	001006
Water regulation nozzle. Flow Regulator, incl. hose clamp, sieve Used when tap water is used to generate vacuum. Reduces water consumption.	011606
Water jet pump. Plastic Used when tap water is used to generate vacuum.	002913

Rotavapor® accessories - Heating Baths

	Order number
Heating bath. Heating Bath B-301, not incl. Base B-300, 110V For up to 1 Liter evaporating flasks. For temperatures up to 95 °C. Meant to be used with water as heating media.	11B301002
Heating bath. Heating Bath B-301, not incl. Base B-300, 230V For up to 1 Liter evaporating flasks. For temperatures up to 95 °C. Meant to be used with water as heating media.	11B301001
Heating bath. Heating Bath B-301, incl. Base B-300, 110V For up to 1 Liter evaporating flasks. For temperatures up to 95 °C. Meant to be used with water as heating media.	11B301102
Heating bath. Heating Bath B-301, incl. Base B-300, 230V For up to 1 Liter evaporating flasks. For temperatures up to 95 °C. Meant to be used with water as heating media.	11B301101
Heating bath. Heating Bath B-305, not incl. Base B-300, 110V For up to 5 Liter evaporating flasks. For temperatures up to 220 °C. Meant to be used with water or oil as heating media.	11B305002
Heating bath. Heating Bath B-305, not incl. Base B-300, 230V For up to 5 Liter evaporating flasks. For temperatures up to 220 °C. Meant to be used with water or oil as heating media.	11B305001
Heating bath. Heating Bath B-305, incl. Base B-300, 110V For up to 5 Liter evaporating flasks. For temperatures up to 220 °C. Meant to be used with water or oil as heating media.	11B305102
Heating bath. Heating Bath B-305, incl. Base B-300, 230V For up to 5 Liter evaporating flasks. For temperatures up to 220 °C. Meant to be used with water or oil as heating media.	11B305101

Rotavapor® wear parts

	Order number
Seal. For cap nut GL14 to FEP, EPDM	038225
Seals. set. 10 pcs, for hose barbs GL14, EPDM, black	040029
Seals. set. 10 pcs, for hose barbs GL14, FPM, green	040040
Seals. set. 20 pcs, for hose barbs GL14, silicone, red	040023
O-ring. FKM, 40.9/2.6 mm, for reflux insert	048078
O-ring. FPM, for screw cap GL10, Ø3.00/2.70mm	023900
Hose barb. Bent, GL14, incl. silicone seal	018916
Hose barbs. set. 2 pcs, bent (1), straight (1), GL14, silicone seal Content: Hose barbs, cap nuts, seals	041939
Hose barbs. set. 2 pcs, bent (1), straight (1), GL14 silicone seal Content: Hose barbs, cap nut, screw caps seals	11061921
Hose barbs. set. 3 pcs, bent, GL14, silicone seal Content: Hose barbs, seals	041987
Hose barbs. set. 4 pcs, bent GL14, silicone seal Content: Hose barbs, cap nuts, seals	037287

Hose barbs. set. 4 pcs, bent, GL14, EPDM seal Content: Hose barbs, cap nuts, seals	043129
Hose barbs. set. 4 pcs, bent, GL14, FEP seal Content: Hose barbs, cap nuts, seals	040295
Hose barbs. set. 4 pcs, straight, GL14, EPDM seal Content: Hose barbs, cap nuts, seals	043128
Hose barbs. set. 4 pcs, straight, GL14, FPM seal Content: Hose barbs, cap nuts, seals	040296
Hose barbs. set. 4 pcs, straight, GL14, silicone seal Content: Hose barbs, cap nuts, seals	037642
Hose barbs. set. 6 pcs, bent (4), straight (2), GL14, silicone seal Content: Hose barbs, cap nuts, seals	038000
Screw caps. set. 5 pcs, GL14	040624
Cap nut. Screw cap with hole GL10	023875
Cap nuts. set. 10 pcs, screw cap with hole GL14, seal EPDM Content: Hose barbs, cap nuts, seals	041999
Cap nuts. set. 10 pcs, screw cap with hole, GL14	041956
Vacuum gasket. WD26, PTFE, FDA-compliant	048021

Rotavapor® glass accessories - Vapor ducts

Vapor ducts compatible with WD26 (incl. Combi-Clip)

SJ	29/32	24/40	29/42	24/29	34/35
For glass assembly V, C, S, E, CR, BY	11062186	11062187	11062464	11062909	_
For glass assembly A	11062267	11062268	11062269	_	048167
For glass assembly C, V (analytical)	11062465	11062466	11062467	_	_
For glass assembly C and V (KD22)	11062910	_	_	_	_
For glass assembly V, C, S, E, CR, BY With frit (P3) for powder drying	11057297	_	_	_	-

Additional glassware

Additional glassware like evaporating flasks, drying flasks, receiving flasks, beaker flasks, Reitmeyer adapters (bump traps) and distillation spiders can be found in the "Laboratory Evaporation Glassware"-brochure.