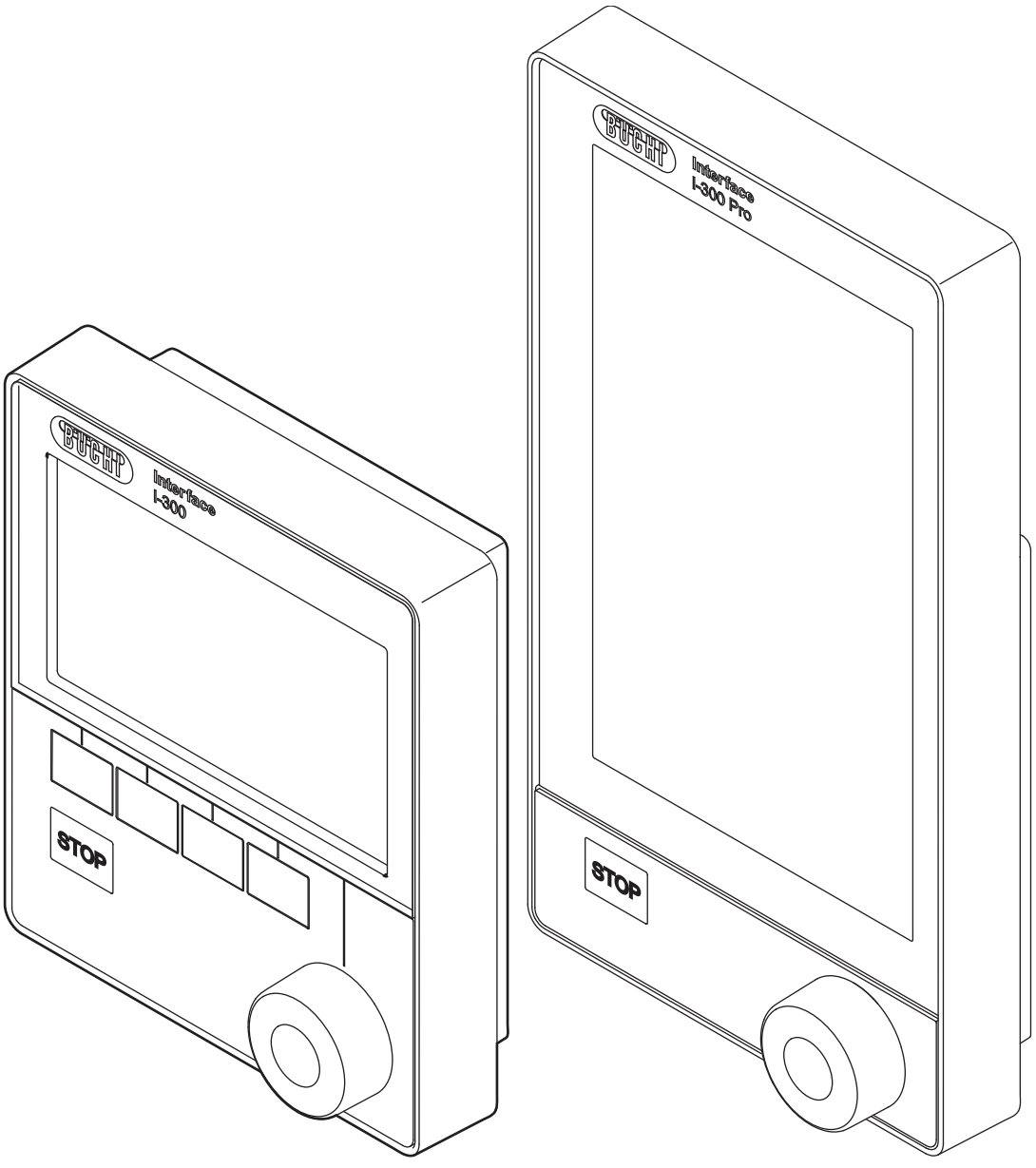
Interface I-300 / I-300 Pro
Technical data sheet

The Interface I-300 or I-300 Pro are the central control unit for all process parameters of a Rotavapor® R-300 system: rotation speed, temperature (heating bath and coolant), pressure, process time etc. Operating modes: manual, timer, continuous, AutoDest, methods, solvent library and drying. The BUCHI Monitor App, for PCs and mobile devices, offers live views and graphical displays of process parameters, as well as push notifications when an action is required. The Interface I-300 Pro offers additionally charting and recording. It consists of a 7 inch touch screen displaying all process parameters in conjunction with a Rotavapor® R-300 system at a glance.



11595223L en Interface I-300 / I-300 Pro 07.2022
Technical data are subject to change without notice
Quality Systems ISO 9001

Order code

Choose the configuration according to your needs:

1	1	I	3	0	0			0

Interface

S I-300

P I-300 Pro

Compatibility pack

0 Stand-alone (incl. holder*) – for expansion of exisiting systems

1 for R-300 / V-300 / V-600, without Woulff bottle (incl. holder*, VacuBox, Fastening set for V-300 / V-600)

2 for R-300 / V-300 / V-600, with Woulff bottle (incl. holder, VacuBox, Fastening set for V-300 / V-600)

3 for house vacuum, with valve unit (incl. VacuBox, power pack, communication cable, Mini-DIN)

4 for R-21x / V-7x0, incl. VacuBox, LegacyBox, holder power pack, communication and support set)

* Holder fixes Interface I-300 or Interface I-300 Pro onto Rotavapor® R-300 or Vacuum Pump V-300 / V-600

"For unattended operation with minimal risk of error and optimized distillation process parameters work with a complete R-300 System. Information about all BUCHI chillers, vacuum pumps and Cloud services are available at the System Brochure.

Explanation of terms

VacuBox	Assures precise vacuum control and is a central communication piece.
LegacyBox	Acts as a translator, enabling communication between different Rotavapor® series.

Scope of delivery

All configurations are supplied ready to use.

	Stand-alone	For R-300 / V-300 / V-600 w/o WB	For R-300 / V-300 / V-600 with WB	For house vacuum	For R-21x / V-7x0
Interface I-300 / I-300 Pro*	1	1	1	1	1
Holder for Rotavapor® and pump	1	1	1	1	1
VacuBox incl. communication cable, Mini-DIN, 0.3 m	-	1	1	1	1
LegacyBox incl. communication cable, Mini-DIN, 0.3 m	-	-	-	-	1
Power pack 100 – 240 V, 40 W	-	-	-	1	1
Woulff bottle	-	-	1	-	-
Valve unit	-	-	-	1	-
Holder	-	-	-	-	1
Communication and support set	-	-	-	-	1
SD-card**	1	1	1	1	1

* according to order code

** only with I-300 Pro

Technical data

Interface

	Interface I-300	Interface I-300 Pro
Dimensions (W x D x H) Interface	121 x 50 x 141 mm	122 x 50 x 221 mm
Dimensions (W x D x H) Shipping box	300 x 85 x 340 mm	300 x 85 x 340 mm
Weight	400 g	600 g
Power consumption	3 W	10 W
Power supply voltage	30 VDC ± 5 %	30 VDC ± 5 %
Display	LCD, 4.3 in	LCD, 7.0 in
Protection class	IP21	IP21
Approvals	CE / CSA	CE / CSA

Junction boxes

	VacuBox	LegacyBox
Dimension (W x D x H)	50 x 57 x 167 mm	50 x 28 x 167 mm
Weight	400 g	200 g
Measurement range	1300 - 0 mbar	
Regulating range	Ambient pressure - 0 mbar	
Measuring accuracy	± 2 mbar (after calibration at constant temperature)	
Temperature compensation	0.07 mbar/K	0.07 mbar/K
Vacuum connection	GL14	
Magnetic valve supply	24 V	
Power consumption	8 W	8 W
Power connections / output voltage	30 VDC ± 5 %	30 VDC ± 5 %
Hysteresis	Automatic or 1 - 200 mbar	Automatic or 1 - 200 mbar
Protection class	IP 21	IP 21
Approvals	CE / CSA	CE / CSA

Applications

The Interface I-300 / I-300 Pro is designed for sophisticated applications and has the following functions:

Interface I-300 / I-300 Pro

Multi-languages	en, de, fr, it, es, zh, ja, ru, pt-br, id, ko
Overpressure prevention	Automatic aeration when pressure is above 1300 mbar. Adjustable from 1300 - 1000 mbar
ECO-mode	Shuts down activity of bath and chiller, hence lowers energy consumption if system remains inactive for a predefined time period

Operating modes

Manual vacuum control	Manual management of pressure settings and aeration
Timer function	Manual vacuum control, stops process after preset time has elapsed
Continuous pumping	Pump runs constantly
Drying	Evaporating flask rotates alternating clock wise and anti-clock wise for a defined time range
AutoDest	Performs automatic multi-stage distillation with specific settings adjusted by the system
Methods (I-300 Pro only)	Performs distillation according to a sequence of programmed steps with defined times and parameters
Solvent Library	Integrated algorithm calculates and dynamically sets the ideal vacuum according to the current readings for heating bath and coolant temperature.

BUCHI Cloud features

Features gained with the connection to the BUCHI Cloud:

	Feature	Description	I-300	I-300 Pro
	Firmware update	With the BUCHI Monitor App and BUCHI Bluetooth Dongle, firmware updates can easily be done by the user at no costs.	x	x
	eSupport	With an eSupport option, the user can send a ticket via mobile phone directly to the local service technician. The sent ticket contains already all important information for the technician for a faster diagnose and repair.	x	x
	SmartMonitor	This is a preventative and predictive maintenance feature which indicates to a local service technician when a certain error occurs several times in a very short time frame on a Rotavapor® system.	x	x
	Rotavapor® Open interface	Open Interface allows to have an status overview of different BUCHI devices and to have communication between them.	-	x
	Remote Monitor App	The BUCHI Monitor App for PCs and mobile devices offers live views and graphical displays of process parameters, as well as push notifications when an action is required, to drastically reduce the hands-on time at the instrument and free valuable time for other tasks.	x	x

Special features

Interface I-300 / I-300 Pro	Description
StatusLight	Benefit of this special light is to show the actual status of your BUCHI Instrument in different colors (visible 360 ° throughout the whole lab). • green-ready to use • yellow-in operation • red-error has occurred
Multi use	Can easily be switched and fastened on different peripherals Allows to fasten interface onto Rotavapor® R-300, Vacuum Pump V-300 / V-600 and lab-stand
Notification via sound signal	Audible signal is sounded after termination of distillation Allows to leave system unattended and frees up time for other tasks
Indication of process parameters of R-300	Displays all operating parameters Indicates set and actual values of heating bath and coolant temperature, rotation speed and lift position
Indication of icons	Displays symbols of peripherals and accessories Enables to check if pump, chiller, vacuum valve and foam sensor are connected to system
Management from distance	Controls Rotavapor® pump and chiller from remote Enables to work behind a closed fume hood

Interface I-300 / I-300 Pro	Description
Operating in parallel	Interface I-300 and I-300 Pro can be used simultaneously Allows to keep one interface at the system and one outside the fume hood for remote operation
Dynamic distillation	Distillation process starts directly after choosing solvent from the library Allows to start distillation while chiller and bath, the vacuum is dynamically adjusted
Color code	Green cables indicate BUCHI communication cable, marked with “COM” Allows an easy understanding of the setup
Solvent library	Internal library lists the common solvents Allows starting distillation process directly by selecting corresponding solvent
Leak test	Integrated test checks system for possible leaks and displays result Allows to verify tightness of the system automatically. For further analysis all past results can be found in the leak test history

Interface I-300 Pro only	
Charting	All process are graphically displayed to facilitate the supervision of distillation Allows to display graphs on smartphones and tablets (via BUCHI Monitor App)
Methods	Possible to program vacuum gradients, rotation speed and interval, time, bath and cooling temperature and push notifications. It is also possible to add an Auto or CloudDest function to the existing program. Once confirmed, the newly programed curves can be seen as a graphical preview in methods menu.
Data recording	Set of data can be exported on an SD card for further analysis and traceability purpose Enables to record all process parameters continuously
Extendable solvent library	Setup individual solvent library with up to 60 solvents Allows to add and bookmark individual solvents to favorite
Touch screen and rotary knob	Control via touch screen and rotary knob / button Allows to manage in both ways

Interface I-300 / I-300 Pro related patents

Name	Date of application	Number of patent
Device and method for recognizing the development of foam	2014/11/11	EP 3069124 JP 6871739
Dynamic distillation	2014/05/20	Pending

Compatibility and communication requirements with I-300 and I-300 Pro

Rotavapor®

Rotavapor®	Compatibility with I-300 / I-300 Pro	Communication requirements
R-300	compatible	VacuBox 2x Communication cable. BUCHI COM 6p: 11058705 (0.3 m), 11058707 (1.8 m), 11058708 (5 m) or 11064090 (15 m)
R-100	-	-
R-215 / R-210 (only with LegacyBox connection)	compatible	Communication cable. RJ45 (044989 (2 m) or 11056240 (5 m)) LegacyBox (11061166) VacuBox 2x Communication cable BUCHI COM 6p (11058705 (0.3 m) or 11058707 (1.8 m) or 11058708 (5 m) or 11065090 (15 m)
R-205 / R-200	-	-

Explanation of terms

compatible	Rotavapor® and vacuum controller/interface communicate with each other.
-	connection not possible

A VacuBox is included when ordering Rotavapor® R-300 with an Interface I-300 or Interface I-300 Pro compatbility pack.

Features in combination with I-300 / I-300 Pro	R-300	R-100	R-215 / R-210	R-205 / R-200
Digitally controlled lift position	only I-300 Pro			
Display and setting bath temperature	•			
Dynamic distillation (only when connected with Vacuum Pump and Recirculating Chiller)	•			
ECO mode (shuts down Recirculating Chiller and Heating Bath)	•			
Automatic on/off rotation speed	•		•	
Automatic and manual up/down lift	•		•	
Remote monitoring with Monitor App	•		•	

Vacuum Pump

Vacuum Pumps	Compatibility with I-300 / I-300 Pro	Communication requirements
V-300 / V-600	Yes speed controlled	VacuBox 2x Communication cable. BUCHI COM 6p: 11058705 (0.3 m), 11058707 (1.8 m), 11058708 (5 m) or 11064090 (15 m)

Vacuum Pumps	Compatibility with I-300 / I-300 Pro	Communication requirements
V-700 / V-710 (only with LegacyBox connection	Yes speed controlled	Communication cable. RJ45 (044989 (2 m) or 11056240 (5 m)) LegacyBox (11061166) VacuBox 2x Communication cable BUCHI COM 6p (11058705 (0.3 m) or 11058707 (1.8 m) or 11058708 (5 m) or 11065090 (15 m) Power adapter (11060669)
V-700 / V-710, V-100, V-500	Yes on/off	R-300 option (power supply through connection to Rotavapor®): Communication cable. Mini-DIN 8p (11060882 (0.6 m) or 038010 (1.5 m) VacuBox 2x Communication cable. BUCHI COM 6p (11058705 (0.3 m) or 11058707 (1.8 m) or 11058708 (5 m) or 11064090 (15 m) or Stand-alone option (power supply through external power adapter): Communication cable. Mini-DIN 8p (11060882 (0.6 m) or 038010 (1.5 m), VacuBox Communication cable. BUCHI COM 6p (11058705 (0.3 m) or 11058707 (1.8 m) or 11058708 (5 m) or 11064090 (15 m) Power adapter (11060669) Adapter cable Mini-DIN to DC-Jack (11062266)

Explanation of terms

speed controlled	Vacuum pump is speed controlled via the interface. Additional features when the system is operating in „speed controlled“ mode are listed as follows.
on/off	Vacuum pump is automatically turned on/off via interface/vacuum controller.

Features in combination with I-300 / I-300 Pro	V-300 / V-600	V-700 / V-710 (only with LegacyBox connection	V-700 / V-710	V-100	V-500
Quiet operation	•				
Level sensor for receiving flask	•				
Speed control	•	•			
Leak test	•	•	•	•	•
Dynamic distillation (only when connected with Rotavapor® R-300 and Recirculating Chiller F-3xx)	•	•	•	•	•

Recirculating Chiller

Recirculating Chiller	Compatibility with I-300 / I-300 Pro	Communication requirements
F-305 / F-308 / F-314	Yes controlled	VacuBox 2x Communication cable. BUCHI COM 6p: 11058705 (0.3 m), 11058707 (1.8 m), 11058708 (5 m) or 11064090 (15 m)*
F-105 / F-108 / F-114 / F-125 (only with LegacyBox connection)*	Yes controlled	Communication cable. RJ45 (044989 (2 m) or 11056240 (5 m)) LegacyBox (11061166) VacuBox 2x Communication cable BUCHI COM 6p (11058705 (0.3 m) or 11058707 (1.8 m) or 11058708 (5 m) or 11065090 (15 m)**
F-100	-	-

Explanation of terms

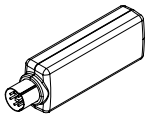
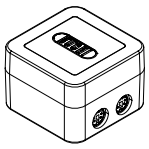
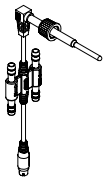
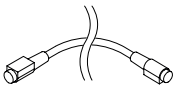
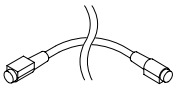
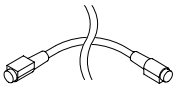
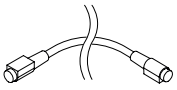
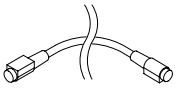
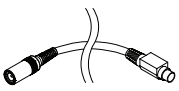
controlled	Recirculating Chiller is turned on/off and the temperature can be set via the interface. The actual temperature is displayed on the interface. Additional features when the system is operating in „controlled“ mode are listed as follows.
-	Connection not possible

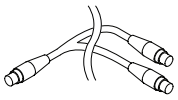
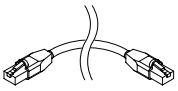
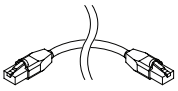
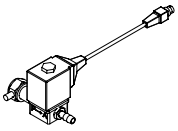
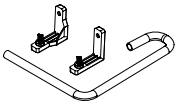
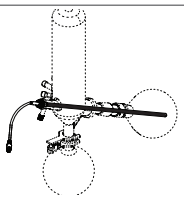
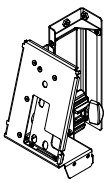
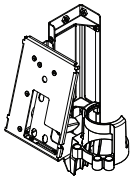
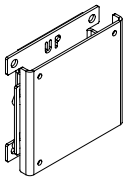
** Without an interface/vacuum controller Recirculating Chillers F-105 / F-108 / F-114 / F-125 can only be controlled manually.

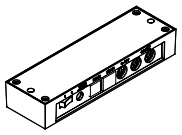
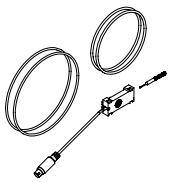
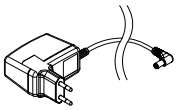
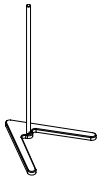
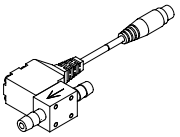
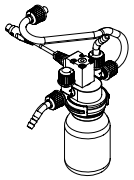
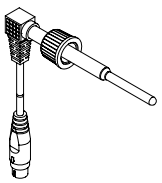
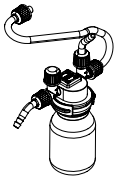
* Power is supplied through connection with other appropriate peripherals

Features in combination with I-300 / I-300 Pro	F-305 / F-308 / F-314	F-105 / F-108 / F-114 / F-125 (only with LegacyBox connection	F-105 / F-108 / F-114 / F-125	F-100
ECO-mode	•			
Setting and viewing the temperature via interface	•	•		
Automatic stop	•	•		
Dynamic distillation (only when connected with Rotavapor® R-300 and Recirculating Chiller F-3xx)	•	•		

Accessories

	Order no.	Image
BUCHI Bluetooth® Dongle, connects instrument to smartphone via Bluetooth® Needed for firmware updates and eSupport.	11067770	
StatusLight cpl., incl. communication cable Indicates the status of the instrument (instrument is ready to use, has an error or is in operation).	11068959	
AutoDest sensor. Incl. cap nut, seal GL14 For automatic distillation. Measures temperature of cooling media and the vapor temperature. 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, HP or S.	11059225	
Communication cable. BUCHI COM, 0.3 m, 6p Enables connection between Rotavapor® R-300 / R-220 Pro, Interface I-300 / I-300 Pro, Vacuum Pump V-300 / V-600, Recirculating Chiller F-3xx, VacuBox and LegacyBox.	11058705	
Communication cable. BUCHI COM, 0.9 m, 6p Enables connection between Rotavapor® R-300 / R-220 Pro, Interface I-300 / I-300 Pro, Vacuum Pump V-300 / V-600, Recirculating Chiller F-3xx, VacuBox and LegacyBox.	11070540	
Communication cable. BUCHI COM, 1.8 m, 6p Enables connection between Rotavapor® R-300 / R-220 Pro, Interface I-300 / I-300 Pro, Vacuum Pump V-300 / V-600, Recirculating Chiller F-3xx, VacuBox and LegacyBox.	11058707	
Communication cable. BUCHI COM, 5.0 m, 6p Enables connection between Rotavapor® R-300 / R-220 Pro, Interface I-300 / I-300 Pro, Vacuum Pump V-300 / V-600, Recirculating Chiller F-3xx, VacuBox and LegacyBox.	11058708	
Communication cable. BUCHI COM, 15 m, 6p Enables connection between Rotavapor® R-300 / R-220 Pro, Interface I-300 / I-300 Pro, Vacuum Pump V-300 / V-600, Recirculating Chiller F-3xx, VacuBox and LegacyBox.	11064090	
Mini-DIN to DC-Jack, 300 mm Meant to be used with 1 Vacuum Pump V-300 and 2 evaporator systems with Interface I-300/I-300 Pro and Rotavapor® of older generations. Connection between VacuBox and power adapter of the Interface I-300/I-300 Pro.	11062266	

	Order no.	Image
Communication cable. Mini-DIN, Y-piece, 2.0 m Meant to be used with 1 Vacuum Pump V-300 and 2 Rotavapor® systems with the Interface I-300/I-300 Pro. Connection between VacuBox and Vacuum Pump V-300.	11062255	
Communication cable. RJ45, 2 m Connection between vacuum controller/interface and recirculating chiller or vacuum controller/interface and vacuum pump.	044989	
Communication cable. RJ45, 5 m Connection between vacuum controller/interface and recirculating chiller or vacuum controller/interface and vacuum pump.	11056240	
Cooling water valve. 24VAC Valve opens cooling water feed during distillation. Meant to be used with a vacuum controller/interface.	031356	
Fastening set. For VacuBox, incl. holder 2 pcs, tube Used to fasten VacuBox on the Vacuum Pump V-300 or V-600.	11062957	
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	
Holder. To fix interface on lab stand To fix Interface I-300 / I-300 Pro, VacuBox and LegacyBox on lab stand, Rotavapor® R-21x or Vacuum Pump V-7xx. Incl. support, fixing clamp.	11059021	
Holder, set. To fix Interface and Woulff bottle on lab stand To fix Interface I-300 / I-300 Pro, VacuBox, LegacyBox and Woulff bottle / valve unit on a lab stand, Rotavapor® R-21x or Vacuum Pump V-7xx. Incl. holder for Interface and Woulff bottle, 2 M4x8 screws.	11065362	
Holder. Wall mount, incl. support set To fasten Interface on wall.	11059132	

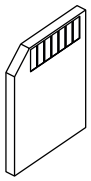
	Order no.	Image
LegacyBox. Incl. accessory kit Interface between Interface I-300 / I-300 Pro (with VacuBox) to peripherals of older generations (Vacuum Pump V-7xx, Recirculating Chiller F-1xx).	11061166	
Level sensor. Incl. O-ring, cable, rubber band Prevents an overflow in the receiving flask of condenser/secondary condenser. Placed on receiving flask. Meant to be used with the Interface I-300 / I-300 Pro.	11060954	
Power adapter. 30 V, 30 W, frequency 50/60 Hz To power vacuum controller directly or to power interface via LegacyBox or VacuBox.	11060669	
Stand. V stand with rod, 600 mm Used as a holder for interface or vacuum controller when they cannot be mounted on a peripheral or wall.	048891	
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	
Valve unit. Incl. Woulff bottle, 125 mL, P+G, holder Magnetic valve, meant to be used with the Interface I-300/I-300 Pro. For operation with non-BUCHI vacuum pumps or house vacuum.	11061887	
Vapor temperature sensor. Incl. cap nut, seal GL14 Measures the vapor temperature inside the system. Meant to be used with the Interface I-300 / I-300 Pro.	11060707	
Woulff bottle. 125 mL, P+G, incl. holder For trapping particles and droplets and for pressure equalization.	11059905	

Tubing

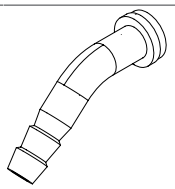
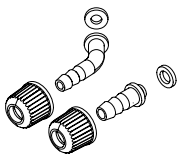
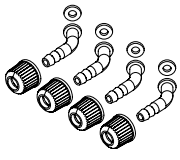
	Order no.
Tubing. Natural rubber, Ø6/16 mm, red, per m Use: Vacuum.	017622

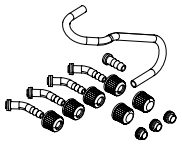
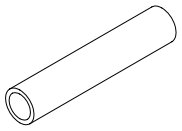
	Order no.
Tubing. Nylflex, PVC-P, Ø8/14 mm, transparent, per m	004113
Tubing. Synthetic rubber, Ø6/13 mm, black, per m Use: Vacuum.	11063244

Accessories for I-300 Pro

	Order no.	Image
SD card. For Interface I-300 Pro Records all process parameters. The set of data can be exported for further analysis.	11061548	

Wearing parts

	Order no.	Image
Cap nuts, set. 10 pcs, screw cap with hole GL14, seal EPDM Content: Cap nuts, seals	041999	
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	
Screwing set, Hose barbs and seals GL14 Content: Hose barbs bent 4 pcs, hose barbs straight 1 pc, cap nuts 4 pcs, screw caps 2 pcs, seals EPDM 3 pcs.	11061921	
Hose barbs, set. 4 pcs, bent GL14, silicone seal Content: Hose barbs, cap nuts, seals	037287	
Hose barbs, set. 4 pcs, straight, GL14, silicone seal Content: Hose barbs, cap nuts, seals	037642	

	Order no.	Image
Hose, set. Incl. GL14 set, FEP tube 11061756 Used to connect VacuBox and Valve unit/Woulff bottle when both are fixed on the Rotavapor® R-300.	11065373	
Tubing. FEP, Ø6/8 mm, transparent, 40 mm Connection tubing Woulff bottle.	11059909	

Measuring principle

Capacitive, independent of gas type, absolute pressure gauge / sensor made from aluminum oxide-ceramic