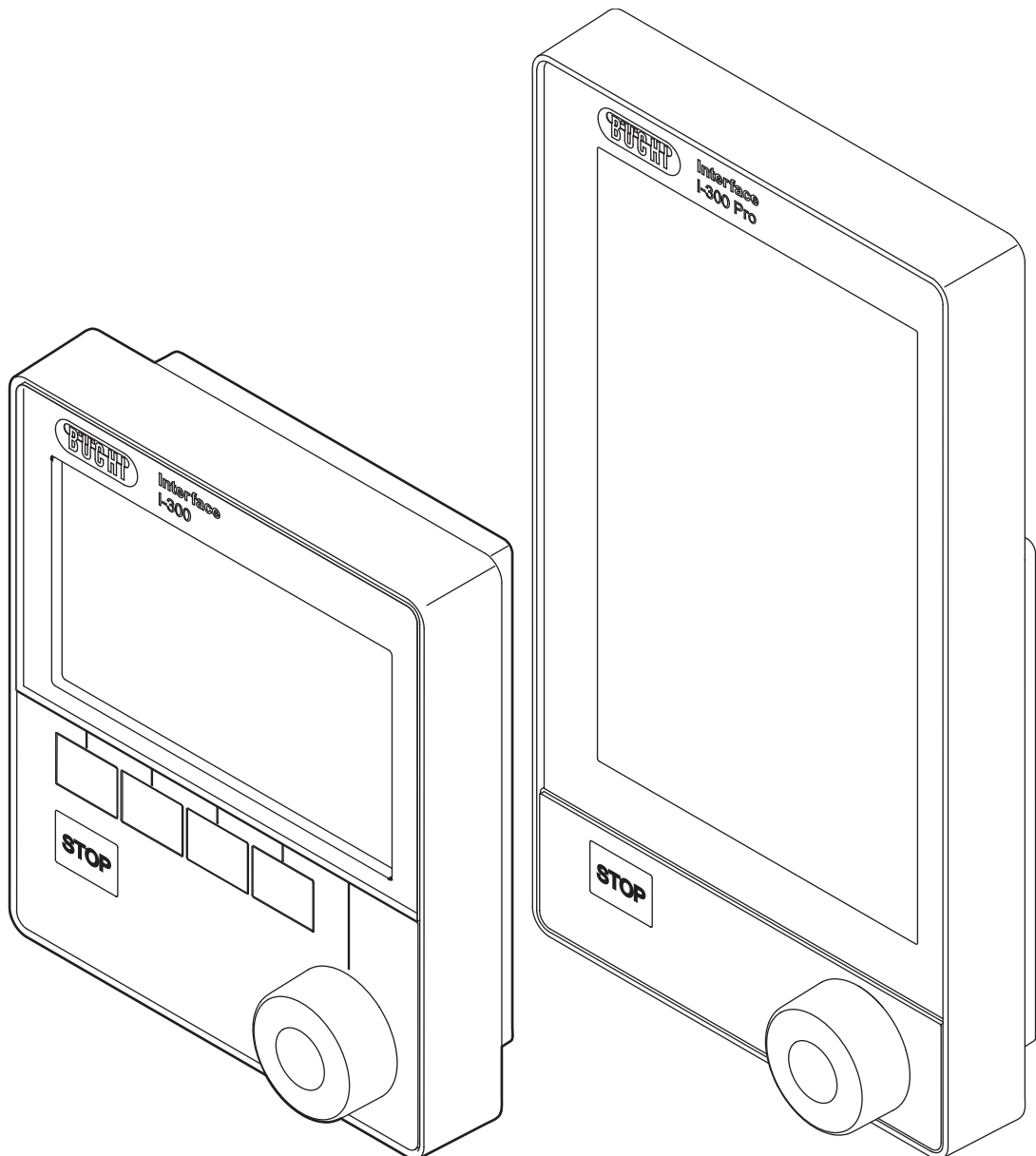# Interface I–300 / I–300 Pro
Technical data sheet

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, drying. The Rotavapor® R-300 App offers push notifications and live view of all process parameters on mobile devices. The Interface I-300 Pro offers additionally charting and recording. It consists of a 7 in touch screen displaying all process parameters in conjunction with a Rotavapor® R-300 system at a glance.

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)

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

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

A recommended solution with the Interface I-300 as well as the Interface I-300 Pro in combination with the Rotavapor® R-300, the Vacuum Pump V-300 and the Recirculating Chiller F-308 can be found in the technical data sheet of the Rotavapor® R-300 "Exemplary solution" and in the "Laboratory Rotary Evaporation Solutions" brochure.

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

	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
SD-card (1GB)**	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 (B x H x T) Interface	121 x 141 x 50 mm	122 x 221 x 50 mm
Dimensions (B x H x T) Shipping box	300 x 340 x 85 mm	300 x 340 x 85 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 (B x H x T)	50 x 167 x 57 mm	50 x 167 x 28 mm
Weight	400 g	200 g
Measurement range	Ambient pressure - 0 mbar	
Measuring accuracy	± 2 mbar (after calibration at constant temperature)	
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 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 1400 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

Special features

Interface I-300 / I-300 Pro

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
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
Wear part library	Internal library lists common wear parts inclusive order code
	Allows a convenient replacing process of wear parts and user is alerted to check quality of wear parts
Leak test	Integrated test checks system for possible leaks and displays result
	Allows to verify tightness of the system automatically
Remote monitoring (APP)	BUCHI Rotavapor® APP for iOS, Android and Windows offers push notifications and live view of all process parameters
	Allows to track current status of distillation remotely via smartphones / tablets and informs user when process is terminated
	See detailed description on Chapter 12 "Functional principle of communication", page 000

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 Rotavapor APP)
Method preview as chart	Method list includes graphical preview (chart) of set parameters
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 simultaneously

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	WO 2015071237
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 Rotavapor 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)
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 (11062266)
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 Lega-cyBox con-nection)	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.
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, 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, 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, 300mm 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
Mini-DIN, Y-piece, 2.0m 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

	Order no.
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
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. 30V, 30 W, frequency 50/60Hz 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
Tubing. Natural rubber, Ø6/16 mm, red, per m Use: Vacuum.	017622
Tubing. Nylflex, PVC-P, Ø8/14 mm, transparent, per m Use: Vacuum, cooling media, feeding (industrial Rotavapor®).	004113
Tubing. Synthetic rubber, Ø6/13 mm, black, per m Use: Vacuum.	11063244
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

	Order no.
Water jet pump, B-767: Magnetic valve (2pcs), FFKM, 24V Used when tap water is used to generate vacuum. Inclusive: Cooling water valve. Meant to be used with a vacuum controller/interface.	031357
Woulff bottle. 125 mL, P+G, incl. holder For trapping particles and droplets and for pressure equalization.	11059905

Accessories for I-300 Pro

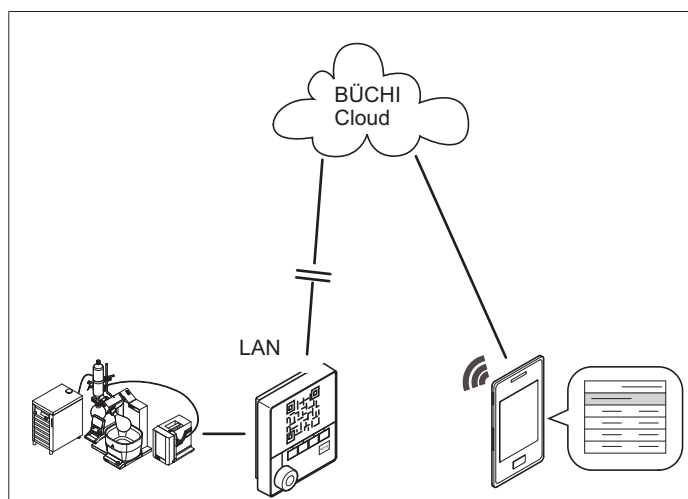|	Order no.
SD card. For Interface I-300 Pro, 1GB Records all process parameters. The set of data can be exported for further analysis.	11061548

Wearing parts

	Order no.
Cap nuts, set. 10 pcs, screw cap with hole GL14, seal EPDM Content: Hose barbs, 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
Hose barbs, set. 2 pcs, bent (1), straight (1), GL14 silicone seal Content: Hose barbs, cap nut, screw caps seals	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
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
Seal. For cap nut GL14 to FEP, EPDM	038225
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

Functional principle of communication

The BUCHI Connect Solution is an IT Solution for mobile monitoring of distillation processes.

BUCHI Connect Scenario using distillation system, using smartphone, cloud and server.

With the BUCHI Connect Solution, the distillation process can be tracked via smartphone or tablet. The 'Push Notifications' inform about the status of the process and all the data can be monitored and analyzed from afar.

The mobile BUCHI Rotavapor® APP shows the set as well as actual values analogous displayed on the interface. When the interface is connected to the network (LAN) the BUCHI Rotavapor® mobile APP displays the alphanumeric data. With the Interface I-300 Pro also the progression graphs of the distillation process are displayed.