

LIQUID HANDLING

 **BOECO**
Germany



MICROPIPETTES

Simple volume adjustment

Our premium BOECO GP Series single- and multichannel air-interface adjustable Micropipettes include all features requested by the user:

Robustness, simple operation, complete autoclavability and ergonomic design as well as highest accuracy and easy calibration for long lasting reliability.

Fully autoclavable



Color-coded display window for easy tip selection

Precise, 4-digit volume display with integrated zoom function for optimal readability

Streamlined shaft for use in narrow reaction vessels

- ▶ Completely autoclavable at 121°C (2 bar) as by DIN EN 285
- ▶ Ergonomic design
- ▶ Simple volume adjustment for left- and right-handers
- ▶ Integrated calibration function for easy calibration without the need for tools
- ▶ Good chemical & UV-light resistance
- ▶ conformity certified to DIN 12600

Every package includes:
BOECO GP Pipettor, manual, quality-certificate.

Manufactured in Germany in accordance with ISO 9001:2008 / ISO 14001:2009 quality and environmental standards.

All pipettors are tested acc. to DIN ISO 8655-2.

BOECO GP SERIES PREMIUM ADJUSTABLE VOLUME PIPETTE, WITH TIP EJECTOR, FULLY AUTOCLAVABLE

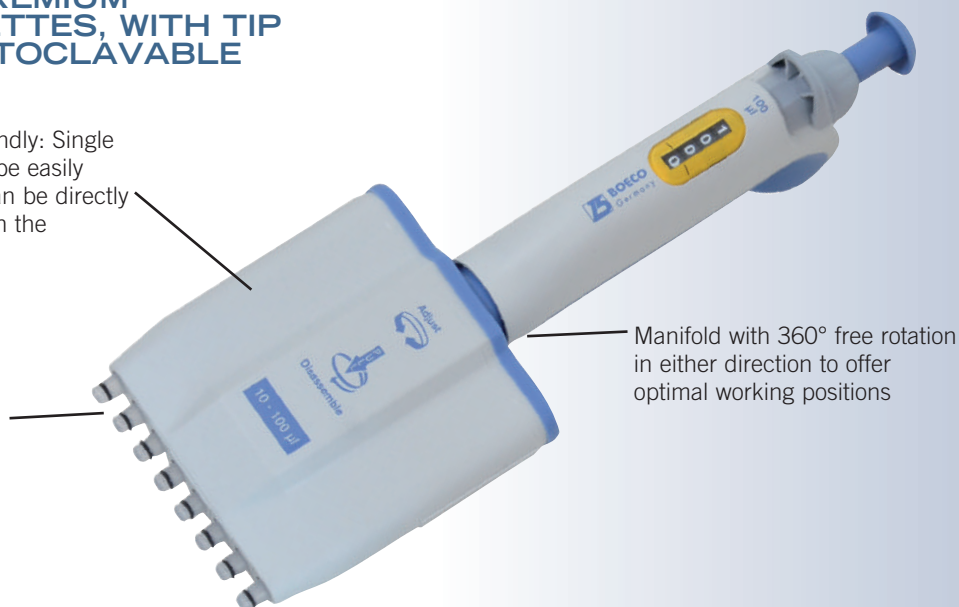
Cat. No	Channel	Volume	Increment	Test Volume	Inaccuracy	Imprecision	Tip Type
BOE 9910010	1-ch	0,5 - 10 µl	0,01 µl	10 µl	±1,00 %	±0,60 %	A,B,C
			5 µl		±1,60 %	±1,00 %	
			1 µl		±7,00 %	±4,00 %	
BOE 9910020	1-ch	2 - 20 µl	0,02 µl	20 µl	±0,80 %	±0,40 %	D,E,F
			10 µl		±1,20 %	±0,70 %	
			2 µl		±5,00 %	±2,00 %	
BOE 9910100	1-ch	10 - 100 µl	0,1 µl	100 µl	±0,60 %	±0,20 %	D,E,F
			50 µl		±0,80 %	±0,40 %	
			10 µl		±3,00 %	±1,00 %	
BOE 9910220	1-ch	20 - 200 µl	0,2 µl	200 µl	±0,60 %	±0,20 %	D,E,F
			100 µl		±0,80 %	±0,30 %	
			20 µl		±3,00 %	±0,60 %	
BOE 9911100	1-ch	100 - 1000 µl	1 µl	1000 µl	±0,60 %	±0,20 %	G,H,I
			500 µl		±0,80 %	±0,30 %	
			100 µl		±3,00 %	±0,60 %	
BOE 9915000	1-ch	500 - 5000 µl	5 µl	5000 µl	±0,60 %	±0,20 %	K
			2500 µl		±0,80 %	±0,30 %	
			500 µl		±3,00 %	±0,60 %	
BOE 9911111	1-ch	1000 - 10000 µl	10 µl	10000 µl	±0,60 %	±0,20 %	M
			5000 µl		±0,80 %	±0,30 %	
			1000 µl		±3,00 %	±0,60 %	

BOECO GP SERIES PREMIUM MULTICHANNEL PIPETTES, WITH TIP EJECTOR, FULLY AUTOCLAVABLE



Especially service friendly: Single shafts and seals can be easily removed, and thus can be directly cleaned or replaced in the laboratory

The combination of the stepped design of the ejector and spring made of FKM reduces the effort needed for ejecting the tips



Manifold with 360° free rotation in either direction to offer optimal working positions

Cat. No	Channels	Volume	Increment	Test Volume	Inaccuracy	Imprecision	Tip Type
BOE 9908050	8-ch	5 - 50 µl	0,1 µl	50 µl	±0,80 %	±0,40 %	D,E,F
				25 µl	±1,40 %	±0,80 %	
				5 µl	±6,00 %	±3,00 %	
BOE 9908100	8-ch	10 - 100 µl	0,2 µl	100 µl	±0,80 %	±0,30 %	D,E,F
				50 µl	±1,40 %	±0,60 %	
				10 µl	±4,00 %	±2,00 %	
BOE 9908300	8-ch	30 - 300 µl	0,2 µl	300 µl	±0,60 %	±0,30 %	F
				150 µl	±1,20 %	±0,60 %	
				30 µl	±3,00 %	±1,50 %	
BOE 9912050	12-ch	5 - 50 µl	0,1 µl	50 µl	±0,80 %	±0,40 %	D,E,F
				25 µl	±1,40 %	±0,80 %	
				5 µl	±6,00 %	±3,00 %	
BOE 9912100	12-ch	10 - 100 µl	0,2 µl	100 µl	±0,80 %	±0,30 %	D,E,F
				50 µl	±1,40 %	±0,60 %	
				10 µl	±4,00 %	±2,00 %	
BOE 9912300	12-ch	30 - 300 µl	0,2 µl	300 µl	±0,60 %	±0,30 %	F
				150 µl	±1,20 %	±0,60 %	
				30 µl	±3,00 %	±1,50 %	

ACCESSORIES

Cat. No.	Description
BOE 1672010	Filter for GP Pipette 5 ml, Pack of 25 pcs.
BOE 1672012	Filter for GP Pipette 10 ml, Pack of 25 pcs.
BOE 1672015	Silicon oil for GP Pipettes up to 1000 µl
BOE 1672016	Silicon grease for GP Pipettes 5 ml / 10 ml
BOE 1672110	Shelf/rack mount for GP-Series Micropipettes
BOE 1672112	Rotary Bench top stand for 6 GP-Series Micropipettes
BOE 9600006	Linear acrylic stand for up to 6 BOECO SA/GP Series Micropipettes, grey.
BOE 3190990	Autoclavable and transparent reagent reservoir with lid. Optimally suited for working with multichannel pipettes. Capacity 60 ml, Pack of 10 units



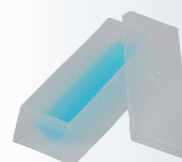
RACK MOUNT



ROTARY CAROUSEL STAND



LINEAR STAND



REAGENT RESERVOIR



Volume adjustment is easily achieved by turning the thumb activated plunger mechanism.



Clear 4-digit display. The selected volume is shown on a clear digital display window on the hand grip.

The durable tip cone offers highest resistance to shocks and chemical corrosion

Our BOECO SA Series single- and multichannel Micropipettes, are our standard fully autoclavable Pipettes, which due to their high accuracy and precision, robustness quality and fantastic ergonomic design make them an excellent price value pipette for all laboratory needs all over the world

- ▶ Completely autoclavable at 121°C
- ▶ Ergonomic design
- ▶ Tip Ejector, for smooth ejection of the tip*
- ▶ Precise setting of the selected volume ensures accurate aspiration & dispensing of the liquid
- ▶ Grip made out of TPE (Thermo Plasto Elastomer) prevents transfer of heat to internal components ensuring accurate pipette operation even on continuous use.
- ▶ Good chemical & UV-light resistance

Every package includes:

BOECO SA Pipettor, manual, quality-certificate, service tool, grease

All pipettors are tested acc. to ISO 8655 / DIN 12650 and have been calibrated in an ISO/IEC 17025 accredited laboratory.

Manufactured in accordance with ISO 9001:2008 and ISO 13485:2003 quality standards

*The 10.000 µl (10 ml) models BOE 9621111 and BOE 9611111 do have a blocked tip ejector. The 10 ml tips have to be removed by hand

BOECO SA SERIES, FIXED VOLUME PIPETTE, WITH TIP EJECTOR



Color-coded button for easy tip selection

Cat. No.	Volume	Inaccuracy	Imprecision	Tip Type
BOE 9620005	5 µl	± 1,30 %	± 1,20 %	D,E,F
BOE 9620010	10 µl	± 0,80 %	± 0,80 %	D,E,F
BOE 9620020	20 µl	± 0,60 %	± 0,50 %	D,E,F
BOE 9620025	25 µl	± 0,50 %	± 0,30 %	D,E,F
BOE 9620050	50 µl	± 0,50 %	± 0,30 %	D,E,F
BOE 9620100	100 µl	± 0,50 %	± 0,30 %	D,E,F
BOE 9620200	200 µl	± 0,40 %	± 0,20 %	D,E,F
BOE 9620250	250 µl	± 0,40 %	± 0,20 %	G,H,I
BOE 9620500	500 µl	± 0,30 %	± 0,20 %	G,H,I
BOE 9621000	1000 µl	± 0,30 %	± 0,20 %	G,H,I
BOE 9622000	2000 µl	± 0,30 %	± 0,15 %	J
BOE 9625000	5000 µl	± 0,30 %	± 0,15 %	J
BOE 9621111	10000 µl	± 0,60 %	± 0,20 %	L

LINEAR BENCH STAND FOR BOECO SA/GP SERIES MICROPIPETTES

Cat. No.	Description
BOE 9600006	Linear acrylic stand for up to 6 BOECO SA/GP Series Micropipettes, grey.

BOECO SA SERIES ADJUSTABLE VOLUME PIPETTES, WITH TIP EJECTOR

Cat. No	Channel	Volume	Increment	Test Volume	Inaccuracy	Imprecision	Tip Type
BOE 9610002	1-ch	0,1 - 2,5 µl	0,01 µl	2,5 µl	±2,50 %	±1,60 %	A,B,C
				1,25 µl	±3,00 %	±3,00 %	
				0,25 µl	±12,00 %	±6,00 %	
BOE 9610010	1-ch	0,5 - 10 µl	0,1 µl	10 µl	±1,00 %	±0,80 %	A,B,C
				5 µl	±2,00 %	±1,00 %	
				1 µl	±2,50 %	±1,50 %	
BOE 9610020	1-ch	2 - 20 µl	0,1 µl	20 µl	±0,90 %	±0,40 %	B,C
				10 µl	±1,50 %	±1,00 %	
				2 µl	±3,00 %	±2,00 %	
BOE 9610050	1-ch	5 - 50 µl	0,5 µl	50 µl	±0,60 %	±0,30 %	D,E,F
				25 µl	±0,80 %	±0,40 %	
				5 µl	±2,00 %	±2,00 %	
BOE 9610100	1-ch	10 - 100 µl	0,5 µl	100 µl	±0,80 %	±0,15 %	D,E,F
				50 µl	±1,00 %	±0,50 %	
				10 µl	±3,00 %	±1,50 %	
BOE 9610220	1-ch	20 - 200 µl	1 µl	200 µl	±0,60 %	±0,15 %	D,E,F
				100 µl	±0,70 %	±0,30 %	
				20 µl	±2,00 %	±0,80 %	
BOE 9611100	1-ch	100 - 1000 µl	5 µl	1000 µl	±0,60 %	±0,20 %	G,H,I
				500 µl	±1,00 %	±0,40 %	
				100 µl	±2,00 %	±0,70 %	
BOE 9615000	1-ch	500 - 5000 µl	50 µl	5000 µl	±0,50 %	±0,15 %	J
				2500 µl	±0,60 %	±0,30 %	
				500 µl	±2,00 %	±0,60 %	
BOE 9611111	1-ch	1000 - 10000 µl	100 µl	10000 µl	±0,60 %	±0,20 %	L
				5000 µl	±1,20 %	±0,30 %	
				1000 µl	±3,00 %	±0,60 %	



Cat. No	Channel	Volume	Increment	Test Volume	Inaccuracy	Imprecision	Tip Type
BOE 9608010	8-ch	0,5 - 10 µl	0,1 µl	10 µl	±2,00 %	±1,00 %	A,B,C
				5 µl	±4,00 %	±2,00 %	
				1 µl	±8,00 %	±1,00 %	
BOE 9608050	8-ch	5 - 50 µl	0,5 µl	50 µl	±1,00 %	±0,70 %	D,E,F
				25 µl	±1,50 %	±1,00 %	
				5 µl	±3,00 %	±2,00 %	
BOE 9608100	8-ch	10 - 100 µl	1 µl	100 µl	±0,80 %	±0,30 %	D,E,F
				50 µl	±1,00 %	±0,80 %	
				10 µl	±3,00 %	±2,00 %	
BOE 9608300	8-ch	30 - 300 µl	1 µl	300 µl	±0,60 %	±0,30 %	F
				150 µl	±1,00 %	±0,50 %	
				30 µl	±3,00 %	±1,00 %	
BOE 9612010	12-ch	0,5 - 10 µl	0,1 µl	10 µl	±2,00 %	±1,00 %	A,B,C
				5 µl	±4,00 %	±2,00 %	
				1 µl	±8,00 %	±1,00 %	
BOE 9612050	12-ch	5 - 50 µl	0,5 µl	50 µl	±1,00 %	±0,70 %	D,E,F
				25 µl	±1,50 %	±1,00 %	
				5 µl	±3,00 %	±2,00 %	
BOE 9612100	12-ch	10 - 100 µl	1 µl	100 µl	±0,80 %	±0,30 %	D,E,F
				50 µl	±1,00 %	±0,80 %	
				10 µl	±3,00 %	±2,00 %	
BOE 9612300	12-ch	30 - 300 µl	1 µl	300 µl	±0,60 %	±0,30 %	F
				150 µl	±1,00 %	±0,50 %	
				30 µl	±3,00 %	±1,00 %	

BOECO ELECTRONIC PIPETTES



CHARGING STAND
BOE 9650002



ACRYLIC PIPETTE STAND
BOE 9650001

- ▶ Light weight and ergonomic design with comfortable operations help to avoid Repetitive Strain Injuries (RSI)
- ▶ Color coded tip ejector for easy identification
- ▶ Hi-resolution color graphic interface with real time display of pipetting operation.
- ▶ User friendly intuitive interface. Easy selection of all modes.
- ▶ Most reliable 3-point calibration method ensuring accuracy and consistency in pipetting results for longer time.
- ▶ Secured calibration with password protection
- ▶ Saves power by switching to Standby Mode if the pipette is not in use for long time.
- ▶ Favourite program can store frequently used sequence steps for smoother handling and complex process.
- ▶ Bottom assembly autoclavable
- ▶ Fast battery charging via charger with USB cable.

Modes

- ▶ Favourites
- ▶ Pipetting
- ▶ Reverse Pipetting
- ▶ Multi Dispensing
 - Sub Mode: Repeat Dispense, Auto Dispensing, Sequence Dispensing
- ▶ Diluting
 - Sub Mode: Diluting + Mixing
- ▶ Mixing
 - Sub Mode: Mixing, Pipetting + Mixing, Diluting + Mixing
- ▶ Settings
- ▶ Calibration

Technical Information:

Power: 4,2 V / 1150 mAh Li-ion battery
 Battery usage duration: 6 hours of continuous usage
 Battery charging duration: 2 hours for full charge

Every package includes:

BOECO Electronic Pipette, Multiplug Battery Charger (EU, UK, US), Li-ion battery, spanner tool, manual, quality-certificate.

Manufactured in accordance with ISO 9001:2008 and ISO 13485:2003 quality standards

Cat. No	Channel	Volume	Increment	Test Volume	Inaccuracy	Imprecision	Tip Type
BOE 9650010	1-ch	0,5 - 10 µl	0,01 µl	10 µl	±1,00 %	±0,60 %	A,B,C
				5 µl	±2,00 %	±1,00 %	
				1 µl	±2,50 %	±1,80 %	
BOE 9650100	1-ch	5 - 100 µl	0,1 µl	100 µl	±0,80 %	±0,20 %	D,E,F
				50 µl	±1,00 %	±0,50 %	
				10 µl	±3,00 %	±1,00 %	
BOE 9650220	1-ch	10 - 200 µl	0,1 µl	200 µl	±0,60 %	±0,20 %	D,E,F
				100 µl	±0,70 %	±0,30 %	
				20 µl	±2,50 %	±0,70 %	
BOE 9651100	1-ch	50 - 1000 µl	1 µl	1000 µl	±0,60 %	±0,20 %	G,H,I
				500 µl	±1,00 %	±0,40 %	
				100 µl	±3,00 %	±0,60 %	
BOE 9655000	1-ch	250 - 5000 µl	5 µl	5000 µl	±0,60 %	±0,15 %	J
				2500 µl	±1,20 %	±0,25 %	
				500 µl	±2,40 %	±0,60 %	

ACCESSORIES

BOE 9650001 Acrylic single pipette stand for BOECO Electronic Pipettes

BOE 9650002 Charging stand for BOECO Electronic Pipettes, 110V-220V

SERIES PIPETTOR

BOECO SERIES PIPETTOR PRO

The BOECO handheld Series Pipettor PRO is an extremely easy-to-handle piston pipette which allows rapid repeat dispensing of pre-set volumes with 12 tip sizes, 10 volume adjustments and 120 program steps

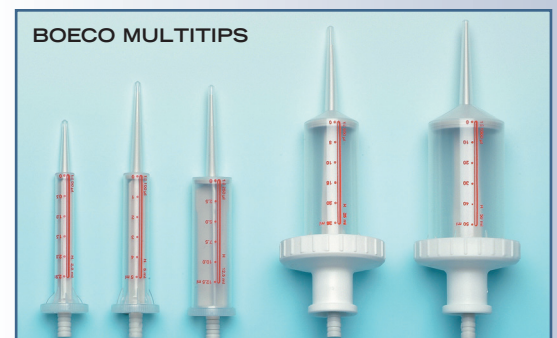
- ▶ **Clear:** Volume adjustments and dosing volumes for different tips are shown in a vision panel
- ▶ **Handy:** A perfect ergonomic design makes an easy and comfortable use possible. With the easy-moving dosing button in combination with the low weight, long dosing series can be dispensed conveniently
- ▶ **Compatible:** The BOECO Series Pipettor PRO apart from the BOECO Multitips is also compatible with PD-tips from Brand and with Combitips and Combitips plus from Eppendorf.
- ▶ **Independent:** In addition to the handy design the BOECO Series Pipettor PRO has been constructed consistent mechanical. The BOECO Series Pipettor PRO is **maintenance-free** and does not need any additional resources such as power supply or batteries.
- ▶ **Dosing table:** The below dosing table shows all dosing possibilities at a glance for choosing the most-suitable tip for your application.



BOECO SERIES PIPETTOR PRO

Tip Size	Program number									
	1	2	3	4	5	6	7	8	9	10
0,05 ml	1	1,5	2	2,5	3	3,5	4	4,5	5	5,5
0,10 ml	2	3	4	5	6	7	8	9	10	11
0,20 ml	4	6	8	10	12	14	16	18	20	22
0,50 ml	10	15	20	25	30	35	40	45	50	55
1,00 ml	20	30	40	50	60	70	80	90	100	110
1,25 ml	25	37,5	50	62,5	75	87,5	100	112,5	125	137,5
2,50 ml	50	75	100	125	150	175	200	225	250	275
5,00 ml	100	150	200	250	300	350	400	450	500	550
10,00 ml	200	300	400	500	600	700	800	900	1000	1100
12,50 ml	250	375	500	625	750	875	1000	1125	1250	1375
25,00 ml	500	750	1000	1250	1500	1750	2000	2250	2500	2750
50,00 ml	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500
	48	35	23	19	15	13	11	9	8	7
	Steps									












Cat. No	Description
BOE 9542023	BOECO Series Pipettor PRO incl. 1 adapter for 25 ml and 50 ml tips



multitips		Cat. No.		Packing unit	
		standard	sterile	standard	sterile
multitips	0,05 ml	BOE 980 222	-	100 pcs	100 pcs
multitips / PRO	0,10 ml	BOE 980 243	BOE 980 261	100 pcs	100 pcs
multitips / PRO	0,20 ml	BOE 980 244	BOE 980 262	100 pcs	100 pcs
multitips	0,50 ml	BOE 980 223	BOE 980 252	100 pcs	100 pcs
multitips / PRO	1,00 ml	BOE 980 245	BOE 980 264	100 pcs	100 pcs
multitips	1,25 ml	BOE 980 224	BOE 980 253	100 pcs	100 pcs
multitips	2,50 ml	BOE 980 225	BOE 980 254	100 pcs	100 pcs
multitips	5,00 ml	BOE 980 226	BOE 980 255	100 pcs	100 pcs
multitips / PRO	10,00 ml	BOE 980 246	BOE 980 267	100 pcs	100 pcs
multitips	12,50 ml	BOE 980 227	BOE 980 256	100 pcs	100 pcs
multitips	25,00 ml	BOE 980 228	BOE 980 257	25 pcs	25 pcs
multitips	50,00 ml	BOE 980 229	BOE 980 258	25 pcs	25 pcs
multitips adapter		BOE 980 234	-	1 pc	-



PIPETTE TIPS

Cat. No.	Volume	Length	Type	Description	Packaging
					
BOE 1-300-81-0	0,1-10 µl	31,2 mm	A	Top Line Natural Tip	bag / 1000 pcs. / carton 20.000 pcs.
BOE 1-300-96-0	0,1-10 µl		A	Top Line Natural Tip	96-tip Rackbox / pack 10 racks
BOE 1-301-96-0	0,1-10 µl		A	Top Line Natural Tip, sterile	96-tip Rackbox / pack 10 racks
BOE 2-301-96-0	0,1-10 µl		A	Top Line Filter Tip, sterile	96-tip Rackbox / pack 10 racks
					
BOE 03.033.0100	0,1-20 µl	40,5 mm	B	Standard Tip, Natural, long type	bag / 1000 pcs. / carton / 10.000 pcs.
					
BOE 1-350-81-0	0,5-10/20 µl	45,7 mm	C	Top Line Natural Tip, long type	bag / 1000 pcs. / carton / 20.000 pcs.
BOE 1-350-96-0	0,5-10/20 µl		C	Top Line Natural Tip, long type	96-tip Rackbox / pack 10 racks
BOE 1-351-96-0	0,5-10/20 µl		C	Top Line Natural Tip, long type, sterile	96-tip Rackbox / pack 10 racks
					
BOE 03.013.0103	2- 200 µl	52,6 mm	D	Standard Tip, yellow	bag / 1000 pcs. / carton / 25.000 pcs.
 					
BOE 1-410-81-1	1-200 µl	53,4 mm	E	Top Line Yellow Tip, bevelled, graduated	bag / 1000 pcs. / carton / 35.000 pcs.
BOE 1-410-96-1	1-200 µl		E	Top Line Yellow Tip, bevelled graduated, nonsterile	96-tip Rackbox / pack 10 racks
BOE 1-411-96-0	1-200 µl		E	Top Line Natural Tip, bevelled graduated, sterile	96-tip Rackbox / pack 10 racks
BOE 2-416-96-0	1-20/30 µl		E	Top Line Filter Tip, natural, sterile	96-tip Rackbox / pack 10 racks
BOE 2-412-96-0	1-100 µl		E	Top Line Filter Tip, natural, sterile	96-tip Rackbox / pack 10 racks
BOE 2-413-96-0	1-200 µl		E	Top Line Filter Tip, natural, sterile	96-tip Rackbox / pack 10 racks
BOE 2-415-96-0	5-300 µl		E	Top Line Filter Tip, natural, sterile	96-tip Rackbox / pack 10 racks
					
BOE 732031	5-300 µl	52 mm	F	Natural Tip	box / 1000 pcs. / carton / 10.000 pcs.
					
BOE 03.023.0101	50-1000 µl	70,5 mm	G	Standard Tip, blue	bag / 1000 pcs. / carton / 10.000 pcs.
					
BOE 1-209-06-2	100-1000 µl	70,1 mm	H	Top Line Tip, clear blue	60-tip Rackbox / pack 10 racks
BOE 1-207-06-2	100-1000 µl		H	Top Line Tip, clear blue, sterile	60-tip Rackbox / pack 10 racks
BOE 2-209-06-2	100-1000 µl		H	Filter Tip, clear blue, sterile	60-tip Rackbox / pack 10 racks
 					
BOE 1-600-80-2	100-1000 µl	84,3 mm	I	Top Line Tip, blue, bevelled, graduated	bag / 500 pcs. / carton / 10.000 pcs.
BOE 1-601-96-2	100-1000 µl		I	Top Line Tip, blue, bevelled graduated	96-tip Rackbox / pack 10 racks
BOE 1-601-96-0	100-1000 µl		I	Top Line Tip, clear, bevelled graduated, sterile	96-tip Rackbox / pack 10 racks
BOE 2-601-96-0	100-1000 µl		I	Top Line Filter Tip, sterile	96-tip Rackbox / pack 10 racks

BOECO Top Line Tips are certified to be free of any detectable human DNA, DNase, RNase and PCR-inhibitors.

Cat.No.	Volume	Length	Type	Description	Packaging
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BOE 9600650	1 - 5 ml	126 mm	J	Natural Tip, for SA Series	carton / 300 pcs.
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This Tip is also suitable for our previous Standard and SP pipettes with 2000 μ l and 5000 μ l as well as BIOHIT[®] pipettes



BOE 702601	0,5 - 5 ml	160 mm	K	Natural Tip, for GP Series	bag / 200 pcs. / carton 1000 pcs.
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This Tip is also suitable for Thermo Fisher Scientific Finnpiipette[®] F1 and F2 of 5 ml



BOE 9600640	2 - 10 ml	150 mm	L	Natural Tip, for SA Series	bag / 100 pcs.
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This Tip is also suitable for Thermo Fisher Scientific Finnpiipette[®] F1 and F2 of 10 ml



BOE 702604	1 - 10 ml	156,5 mm	M	Natural Tip, for GP Series	bag / 100 pcs. / carton 1000 pcs.
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This Tip is also suitable for the old SP Pipettes with 10 ml volume, as well as for Eppendorf[®] and Gilson[®] Pipettes of 10 ml



**NEW BOECO RACKBOXES
FOR 96 TIPS**

PIPETTE AIDS



BOECO PIPETTE FILLER BALLS

BOECO PIPETTE FILLER BALLS

natural rubber, red, with 3 valves

Cat. No.	Description
BOE 100	Model STANDARD, short cone for pipettes up to 20 ml
BOE 101	Model UNIVERSAL, long cone for all pipettes



BOECO PIPETTE PUMPS, PP

BOECO PIPETTE PUMPS, PP

Can be operated with one hand. Glass and plastic pipettes fit easily. Precise filling or emptying is done by rotating their actuator-wheels forward or backward. For rapid emptying simply depress plunger.

Cat. No.	Description
BOE 120	0 - 2 ml, blue
BOE 121	0 - 10 ml, green
BOE 122	0 - 25 ml, red



BOECO PIPETTE CONTROLLER

BOECO PIPETTE CONTROLLER

offers safer, more convenient filling and dispensing, with glass and plastic pipettes. With one sensitive lever filling and delivery are easily controlled. Pipetting with ease and comfort.

- ▶ Easy and tireless handling for left and right-handed people
- ▶ An especially designed intake cone allows the use of pipettes from 0,1 ml to 100 ml
- ▶ The perfectly harmonized valve unit ensures effortless liquid intake
- ▶ Precise and high sensitive set of the meniscus
- ▶ An easy replaceable hydrophobic membrane filter protects the interior from penetrating liquids
- ▶ Completely autoclavable at 121°C (2 bar)

Cat. No.	Description
BOE 160	BOECO Manual Pipette controller, complete
BOE 1670650	Membrane filter, 3 µm, sterile, hydrophobic, PTFE, pack of 10 pcs.
BOE 1670211	Suction bellows / Intake element
BOE 1670202	Intake cone, silicone
BOE 1655590	Valve unit

BOECO ELECTRONIC PIPETTE CONTROLLER, GP SERIES

for all pipettes from 0,1 to 200 ml.

With the BOECO electronic pipette controller pipette handling is simple and comfortable. The ergonomic handle - very light weight at about 190 grams - and excellent balance all contribute to ease of operation. The speed can be adjusted easily, continuously and exactly with one hand using two buttons.

A 50 ml pipette can be filled comfortably in less than 10 seconds. The liquid release can be done either by gravity delivery when calibrated 'ex' (to deliver) or in blow out mode using the battery-operated motor. Pipettes are held securely and tightly in the exchangeable adapter.

Liquid vapours are purged directly to protect the instrument.

One full charge of the nickel-metal hydride battery allows 8 hours of non-stop pipetting.

The charge level of the recyclable battery is shown by the LED indicator.

Defective batteries are easily replaced. To avoid surprises, the LED indicator changes from green to red two hours before the battery must be recharged.

The BOECO GP Series Pipette Controller can still be operated while the battery is being recharged.

Manufactured in Germany in accordance with ISO 9001:2008 / ISO 14001:2009 quality and environmental standards.



BOECO ELECTRONIC PIPETTE CONTROLLER GP SERIES

Cat. No.	Description
BOE 9900000	BOECO Electronic Pipette Controller, GP Series with battery, battery charger 100-230V, with multiplug charger (EU, UK, US/J, AUS) and 2 x 0,2 µm replacement membrane filters

BOECO ELECTRONIC PIPETTE CONTROLLER; SA SERIES

is an engine powered pipetting aid designed for cordless work with glass or plastic pipettes in 0.1 - 200 ml range. Ergonomically shaped and carefully modeled light weight handle, together with its smooth push buttons and conveniently located slide switch it ensures effortless pipetting even during extensive use.

- ▶ Powerful yet quite pump can fill a 25 ml pipette under 4 seconds
- ▶ Autoclavable pipette cone
- ▶ Double Safety valve and hydrophobic filters provide double protection against fluid penetration
- ▶ Two different speed modes – High, Low along with Gravity drain.
- ▶ Cadmium Free environment friendly NiMH batteries
- ▶ Batteries can be changed very easily by the end user
- ▶ The intelligent charger prevents over charging / heating of batteries
- ▶ Low battery indicator
- ▶ The specially designed desktop stand enables the Pipette Controller to be charged while resting on it
- ▶ The Pipette Controller can hold serological pipette while resting on the desk top stand

Technical Information:

Power	2x1.2 V/1000 mAh rechargeable NiMH batteries.
Battery usage duration:	Eight hours continuous use
Battery charging duration	2 – 3 hours to charge fully
Volumetric Range	Plastic or Glass pipette from 0.1 ml up to 200 ml
Safety System	Replaceable hydrophobic 0.45 µm and 0.2 µm PTFE filter, Safety check valve

Cat. No.	Description
BOE 9600010	BOECO Electronic Pipette Controller, SA series with battery, battery charger 100-230V, and 1 x 0.2 µm Hydrophobic PTFE membrane filter 1 x 0.45 µm Hydrophobic PTFE membrane filter Wall mounting stand with screw, Desktop stand



BOECO ELECTRONIC PIPETTE CONTROLLER SA SERIES



DISPENSER



BOECO GP SERIES BOTTLE-TOP DISPENSER

Drawing quantities of liquids from large supply bottles is a daily routine in the lab. This manual task must be carried out quickly, accurately, reproducibly, simply and safely.

BOECO GP Series bottle-top dispensers are instruments with proven precision that offer many advantages in routine liquid-handling operations. The positive displacement piston in this instrument is equipped with a fluoroplastic (PFA) sealing lip on the cylinder wall. This acts like a windscreen wiper to prevent crystal build-up on the cylinder wall from readily crystallisable media. The glass cylinder is also coated with a plastic material that reduces the risk of splashes should breakage occur. The telescopic filling tube can be adjusted smoothly to the height of the bottle.

Since the materials in contact with the media (Borosilicate glass, Al₂O₃-ceramic, ETFE, FEP, PFA, PTFE, platinum-iridium, PP (closure cap) are resistant to most acids, bases, and solvents, BOECO GP Series bottle-top dispensers can be used in practically any operation with salt solutions, acids, bases and many organic solvents.

BOECO GP Series bottle-top Dispensers are completely autoclavable at 121°C (2 bar) according to DIN EN 285

Also available with DAkkS calibration certificate or individual quality certificate.

Manufactured in Germany in accordance with ISO 9001:2008 / ISO 14001:2009 quality and environmental standards.

Limits and operating exclusions

Use Temperature from +15 °C to +40 °C of instrument and reagent
Steam pressure: max. 600 mbar; Kinematic Viscosity up to: max. 500 mm²/s
Density: max. 2.2 g/cm³

Liquids attacking Al₂O₃-ceramic, ETFE, FEP, PFA and PTFE (e.g. dissolved sodium azide)

Liquids attacking borosilicate glass (e.g. hydrofluoric acid)

Nitric acid > 60 %, Tetrahydrofuran, Trifluoroacetic acid.

Explosive liquids (e.g., carbon disulfide)

Suspensions (e.g. of charcoal) as solid particles may clog or damage the instrument. Liquids attacking PP (Closure cap)

BOECO GP Series Bottle-Top Dispenser, complete with 3 or 5 adapters (PP), telescopic filling tube, mounting tool, instruction manual, quality certificate, without reservoir bottle.

Code	Volume	Thread at the dispenser	Adapters	Filling Tube	Increment	Inaccuracy	Imprecision
BOE 9900225	0,2 - 2,0 ml	45	GL25/28/32/38/S40	125-240 mm	0,05 ml	± 0,5 %	0,1 %
BOE 9900550	0,5 - 5,0 ml	45	GL25/28/32/38/S40	125-240 mm	0,10 ml	± 0,5 %	0,1 %
BOE 9900110	1,0 - 10,0 ml	45	GL25/28/32/38/S40	125-240 mm	0,20 ml	± 0,5 %	0,1 %
BOE 9902525	2,5 - 25,0 ml	45	GL32/38/S40	170-330 mm	0,50 ml	± 0,5 %	0,1 %
BOE 9905050	5,0 - 50,0 ml	45	GL32/38/S40	170-330 mm	1,00 ml	± 0,5 %	0,1 %
BOE 9901100	10,0 - 100,0 ml	45	GL32/38/S40	170-330 mm	1,00 ml	± 0,5 %	0,1 %

Accessories and Spare Parts for BOECO GP Dispensers

Code	Description
BOE 1678210	Telescopic filling tube 70-140 mm for volume 2/5/10 ml
BOE 1678212	Telescopic filling tube 125-240 mm for volume 2/5/10 ml
BOE 1678214	Telescopic filling tube 195-350 mm for volume 2/5/10 ml
BOE 1678216	Telescopic filling tube 250-480 mm for volume 2/5/10 ml
BOE 1678218	Telescopic filling tube 170-330 mm for volume 25/50/100 ml
BOE 1678220	Telescopic filling tube 250-480 mm for volume 25/50/100 ml
BOE 1678132	Flexible discharge tube, PTFE, 80 cm, for volume 2/5/10 ml
BOE 1678134	Flexible discharge tube, PTFE, 80 cm, for volume 25/50/100 ml
BOE 1671090	Drying tube
BOE 1671683	Sealing ring for valve block (PTFE) for dosing highly volatil media
BOE 1671682	Ventilation plug for micro filter (PP) with Luer-cone and sealing ring

Adapters

Code	Bottle neck / Dispenser
BOE 1670150	25/32
BOE 1670155	28/32
BOE 1670165	38/32
BOE 1670170	40/32
BOE 1670175	45/32
BOE 1670085	32/38
BOE 1670110	38/45
BOE 1670120	40/45

BOECO SA-SERIES BOTTLE-TOP DISPENSER

designed to handle dispensing of liquid from wide range of bottle and flasks. The BOECO SA Series dispensers are intended for the safe and reproducible liquid distribution.

Innovative

- ▶ Unique piston mechanism allows cleaning of the piston and cylinder without disturbing the calibration
- ▶ Spring-less valve design leads to smooth functioning and high chemical resistance

Perfect Handling

- ▶ Discharge tube with 360° rotating makes the bottle label visible all the time
- ▶ Ease of volume setting with locking mechanism
- ▶ Telescoping filling tube compatible with different sizes of reagent bottles
- ▶ Comes with 4 additional adapters for common bottle sizes
- ▶ Easy dispensing and fast priming

Key features

- ▶ Excellent chemical resistance
- ▶ Permanent fluid path visible
- ▶ Robustness with long lasting performance
- ▶ Hassle free maintenance and cleaning
- ▶ Easy to calibrate and adjust in order to comply with ISO 8655-5 standards
- ▶ Can be autoclaved for sterile application 121°C

Safety

- ▶ Replaceable filling and discharge valve with safety ball
- ▶ The glass barrel is protected by a transparent plastic sleeve, which prevents the user from cuts and splashes if the glass breaks
- ▶ Drip-free discharge tube holder to restrict tubing movement

Application

The BOECO SA dispenser supports a very wide range of applications for the dispensing of aggressive reagents - directly from the supply bottle: Such as concentrated bases and acids like H₃PO₄, H₂SO₄ (with certain exceptions such as HCl, HNO₃, HF, etc.), saline solutions, and a variety of organic solvents.

Specially for use in trace analysis for dispensing high-purity and highly concentrated acids and salt solutions, acids, alkalies and many organic solvents as well as hydrogen peroxide, bromine.

Material in contact with media

Borosilicate glass, Al₂O₃-ceramic PFA, FEP, PTFE, ETFE and PP (Bottle screw cap).

Limits and operating exclusions

Temperature: +15 °C to +40 °C

Steam pressure: max. 500 mbar

Viscosity: max. 500 mm²/s

Density: max. 2.2 g/cm³

Liquids attacking ETFE, FEP, PFA and PTFE (e.g. dissolved sodium azide)

Liquids attacking borosilicate glass (e.g. hydrofluoric acid)

Hydrochloric acid > 20 % and nitric acid > 30 %

Tetrahydrofuran, Trifluoroacetic acid

Explosive liquids (e.g. carbon disulfide)

Suspensions (e.g. of charcoal) as solid particles may clog or damage the instrument.

Liquids attacking PP (Bottle screw cap)

BOECO SA Series Bottle-Top Dispenser, complete with 4 adapters (PP), telescopic filling tube, spanner, instruction manual, quality certificate and calibration report, without reservoir bottle.

Code	Volume	Thread at the dispenser	Adapters	Increment	Inaccuracy	Imprecision
BOE 9680002	0,25 - 2,5 ml	32	28//38/40/45	0,05 ml	± 0,6 %	± 0,2 %
BOE 9680005	0,50 - 5,0 ml	32	28//38/40/45	0,10 ml	± 0,5 %	± 0,1 %
BOE 9680010	1,0 - 10,0 ml	32	28//38/40/45	0,20 ml	± 0,5 %	± 0,1 %
BOE 9680025	2,5 - 25,0 ml	32	28//38/40/45	0,50 ml	± 0,5 %	± 0,1 %
BOE 9680050	5,0 - 50,0 ml	32	28//38/40/45	1,00 ml	± 0,5 %	± 0,1 %



BOTTLE TOP BURETTE



BOECO DIGITAL CONTINUOUS BOTTLE-TOP BURETTES

- ▶ The digital BOECO Continuous Bottle-top Burette makes manual titration safer, easier, with more reliable results.
- ▶ The DCB burettes can be used for titration agents up to a concentration of 1 Mol/l. During the titration process, the burette fills automatically, eliminating time-consuming refills.
- ▶ Continuous pulse-free operation for faster titrations up to 5 ml per second.
- ▶ Titrant delivery is controlled by turning the wheels, and the amount dispensed is immediately shown on the display - from 10 µl to 999,9 ml, with a velocity of 2,5 ml/turn using model DCB 2500 or 5,0 ml/turn with model DCB 5000.
- ▶ The DCB models eliminate the errors of reading the meniscus and volume graduations of conventional hanging glass burettes.
- ▶ There is no exposed glassware to break and direct connection to the reagent bottle avoids pouring dangerous chemicals.
- ▶ Safety recirculating valve allows for recirculation within the closed system to avoid reagent waste.
- ▶ Angled digital display for easier reading from different heights by different users.
- ▶ Unique telescopic intake tube with length from 210 till 310 mm can be re-adjusted without cutting for different bottle sizes.
- ▶ Dosing spectrum from 10 µl to 999,9 ml.
- ▶ Battery-operated, easily replaceable micro-batteries 1,5 V (LR 03/AAA). One charge lasts a minimum of 500 hours (dispensing 4500 l of reagent).
- ▶ Burette can be rotated 360° on the bottle.
- ▶ Titrating tube removable and adjustable: horizontal 142-220 mm, vertical 10-200 mm.
- ▶ Service friendly modular assembly.
- ▶ Electronic can be completely removed.
- ▶ Low battery indicator.
- ▶ User-serviceable and calibratable to meet ISO and GLP requirements.
- ▶ Optional drying tube protects reagents from moisture or CO₂.
- ▶ Manufactured under ISO 9001 norms.
- ▶ Adapters are available to fit most bottle neck sizes.

BOECO Digital Continuous Bottle-Top Burettes, complete with 3 PP adapters 45/38, 38/32, 40/45 (45 thread at the burette), 1 telescopic intake tube (FEP), 1 telescopic titration tube, 2 micro-batteries 1,5 V (LR 03/AAA), without reservoir bottle.

Code	Model	Accuracy	Coefficient of variation
BOE 9882500	DCB 2500 (2.5 ml/turn)	± 0,2 %	0,1 %
BOE 9885000	DCB 5000 (5,0 ml/turn)	± 0,2 %	0,1 %

Accessories

Code	Description
BOE 1671095	Drying Tube
BOE 9772050	Amber Glass bottle, 2500 ml
BOE 1671085	Telescopic Intake Tube, 200-350 mm

Dispenser-thread bottles, with screw cap, amber glass, with synthetic coating

Code	Volume	Outer diam. (mm)
BOE 9772010	100 ml	28
BOE 9772020	250 ml	32
BOE 9772030	500 ml	32
BOE 9772040	1000 ml	45
BOE 9772050	2500 ml	45

