

Please enter these **calibration parameters** and the **Lot No.** into the BioLector software!

**pH calibration parameters Lot No.2103101 (BioLector® XT, filter module ID-502)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	63.92	63.85	63.77	63.69	63.62	63.54	63.46
φ max	13.45	13.45	13.45	13.45	13.46	13.46	13.46
dpH	0.56	0.56	0.56	0.56	0.56	0.56	0.56
pH <sub>0</sub>	6.33	6.32	6.31	6.30	6.29	6.28	6.27

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	63.39	63.31	63.23	63.16	63.08	63.01	62.93
φ max	13.46	13.46	13.46	13.46	13.46	13.47	13.47
dpH	0.56	0.56	0.56	0.56	0.56	0.56	0.56
pH <sub>0</sub>	6.26	6.25	6.24	6.23	6.22	6.21	6.20

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	62.85	62.78	62.70	62.62	62.55	62.47	62.39
φ max	13.47	13.47	13.47	13.47	13.47	13.47	13.48
dpH	0.56	0.56	0.56	0.56	0.56	0.56	0.56
pH <sub>0</sub>	6.19	6.18	6.17	6.16	6.15	6.14	6.13

**pH sensor properties**

Dynamic range	pH 4.30 - 7.85
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.80 - 5.10 ; ± 0.1 pH at pH 5.10 - 7.05 ; ± 0.25 pH at pH 7.05 - 7.35 (batch calibration)
Response time (t90)	At 25 °C < 30 s
Drift at pH = 7	< 0.005 pH per day (sampling interval of 6 min)
Temperature range	5 °C to 50 °C
Compatibility	Aqueous solutions, ethanol, methanol (max. 5 % v/v)
Sensor stability	Sensor material can be degraded by some microorganisms
Cross-sensitivity	Reduced to ionic strength (salinity); high concentration of fluorescent molecules in the visible range can interfere (GFP, (e)YFP); complex media can cause a pH-shift (peptone, yeast extract)
Basic material	pH sensor HP8-1811-01_3 (at least stable for 7 days with CertiPUR-buffer) <b>pH sensors are light-sensitive; please protect them from direct light!</b>

**pH calibration**

Buffer	CertiPUR Reference Material Buffer solutions Set (pH 3.00 ± 0.02 / pH 4.00 ± 0.02 / pH 9.00 ± 0.03 / pH 10.00 ± 0.03, 20 °C); 150 mM Citrat-Na-Phosphate buffer (16 solutions)
Settings	BioLector protocol = pH_DO_calibration_BOH1 , T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Flower Plate (MTP-48-BOH1)
Calibration device	Hardware ID: 03166164 (BLXT Pilot 1)
Calibration phase offset	pH -1.81 (pH Ser. 3511, gain 7)
Date of calibration	2021-11-19

**HEADQUARTERS EUROPE**

m2p-labs GmbH  
Arnold-Sommerfeld-Ring 2  
52499 Baesweiler, Germany  
Phone +49 -2401 805 330  
Fax +49 -2401 805 33  
info@m2p-labs.com

**SUPPORT**

**EUROPE**  
Phone +49 - 2401 805 335  
support@m2p-labs.com

**N./S. AMERICAS**  
Phone +1 631 501 1878  
supportUS@m2p-labs.com

**ASIA PACIFIC**  
Phone +852 6092 6778  
supportAsia@m2p-labs.com

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**DO calibration parameters Lot No.2103101 (BioLector® XT, filter module ID-503)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
A	-4703	-4621	-4539	-4457	-4375	-4293	-4211
B	37077	36428	35779	35129	34480	33831	33181
C	-33654	-33061	-32468	-31875	-31283	-30690	-30097

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
A	-4129	-4047	-3965	-3883	-3802	-3720	-3638
B	32532	31882	31233	30584	29934	29285	28636
C	-29504	-28911	-28318	-27725	-27133	-26540	-25947

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
A	-3556	-3474	-3392	-3310	-3228	-3146	-3064
B	27986	27337	26687	26038	25389	24739	24090
C	-25354	-24761	-24168	-23575	-22983	-22390	-21797

**DO sensor properties**

Dynamic range	0 - 100 % oxygen
Resolution	Up to 0.1 % O <sub>2</sub> (software)
Accuracy	± 5% dissolved oxygen (batch calibration)
Drift at 0% oxygen	< 0.5% O <sub>2</sub> per day (sampling interval of 6 min)
Response time (t <sub>90</sub> )	< 30 s
Temperature range	5 – 50°C
Sensor stability	sensor material can be degraded by some microorganisms
Cross-sensitivity to	Organic solvents, such as acetone, toluene, chloroform or methylene chloride, Chlorine gas; high concentration of fluorescent molecules in the visible range can interfere (mCherry, tdTomato, dsRed, Nile red); complex media can cause a DO-shift
Basic material	Oxygen sensor Pst3-HG-1810-01_3 (at least stable for 7 days with CertiPUR-buffer) <b>DO sensors are light-sensitive; please protect them from direct light!</b>

**DO calibration**

Calibration	0.5 M Sulfite system (Two-point calibration with oxygen-free environment (sodium sulfite) and air-saturated environment)
Settings	BioLector protocol = pH_DO_calibration_BOH1 , T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Flower Plate (MTP-48-BOH1)
Calibration device	Hardware ID: 03166164 (BLXT Pilot 1)
Calibration phase offset	DO -360.63 (DO Ser. 4446, gain 7)
Date of calibration	2021-11-19

**Sterilization procedure**

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	871528
Date of sterilization	2021-03-11

**HEADQUARTERS EUROPE**

m2p-labs GmbH  
Arnold-Sommerfeld-Ring 2  
52499 Baesweiler, Germany  
Phone +49 -2401 805 330  
Fax +49 -2401 805 33  
info@m2p-labs.com

**SUPPORT**

**EUROPE**  
Phone +49 - 2401 805 335  
support@m2p-labs.com

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supportUS@m2p-labs.com

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