

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

pH calibration parameters Lot No. 2011101 (BioLector® I, filter module ID-102/-302)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	56.81	56.73	56.65	56.57	56.49	56.42	56.34
ϕ max	11.79	11.79	11.79	11.80	11.80	11.80	11.81
dpH	0.55	0.55	0.55	0.55	0.55	0.55	0.55
pH ₀	6.20	6.19	6.19	6.18	6.17	6.17	6.16
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	56.26	56.18	56.10	56.02	55.95	55.87	55.79
ϕ max	11.81	11.82	11.82	11.82	11.83	11.83	11.84
dpH	0.55	0.55	0.55	0.55	0.55	0.55	0.55
pH ₀	6.15	6.15	6.14	6.14	6.13	6.12	6.12
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	55.71	55.63	55.55	55.47	55.40	55.32	55.24
ϕ max	11.84	11.84	11.85	11.85	11.86	11.86	11.86
dpH	0.55	0.55	0.55	0.55	0.55	0.55	0.55
pH ₀	6.11	6.11	6.10	6.09	6.09	6.08	6.07

pH sensor properties

Dynamic range	pH 4.30 – 7.70
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.80 – 5.10; ± 0.1 pH at pH 5.10 – 6.85; ± 0.25 pH at pH 6.85 – 7.20 (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) pH sensors are light-sensitive; please protect them from direct light!

pH calibration

Buffer	CertiPUR Reference Material Buffer solutions Set (pH 3.00 ± 0.01 / pH 4.00 ± 0.015 / pH 9.00 ± 0.01 / pH 10.00 ± 0.03, 20 °C); 150 mM Citrat-Na-Phosphate buffer (16 solutions)
Settings	BioLector protocol = pH-DO-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Flower and Round (MTP-48-BOH1 and MTP-48-BO1)
Calibration device	Hardware ID: BL092-CX-4A7394
Calibration phase offset	pH 255.9 (pH Ser. 3403, gain 55)
Date of calibration	2020/12/02

HEADQUARTERS EUROPE

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

SUPPORT

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

AMERICA
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. 2011101 and 2011181 (BioLector® I, filter module ID-103/-303)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	72.16	72.14	72.13	72.12	72.10	72.09	72.08
φ cal100	42.50	42.27	42.04	41.80	41.57	41.34	41.10
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	72.06	72.05	72.03	72.02	72.01	71.99	71.98
φ cal100	40.87	40.64	40.40	40.17	39.93	39.70	39.47
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	71.97	71.95	71.94	71.93	71.91	71.90	71.88
φ cal100	39.23	39.00	38.77	38.53	38.30	38.07	37.83

DO sensor properties

Dynamic range	0 - 100 % air saturation (a.s.)
Resolution	Up to 0.5 % O ₂ (software)
Accuracy	± 5% dissolved oxygen (batch calibration)
Drift at 0% oxygen	< 0.5% O ₂ per day (sampling interval of 6 min)
Response time (t ₉₀)	< 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) DO sensors are light-sensitive; please protect them from direct light!

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, T = 20-40 °C, 800 rpm, 1000 μL/well, shaking diameter 3 mm, MTP-type = Flower and Round (MTP-48-BOH1 and MTP-48-BO1)
Calibration device	Hardware ID: BL092-CX-4A7394
Calibration phase offset	DO 332.5 (DO Ser.3402, gain 70)
Date of calibration	2020/12/02

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	829779
Date of sterilization	2020/11/23

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

SUPPORT

EUROPE
Phone +49 - 2401 805 335
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AMERICA
Phone +1 631 501 1878
supportUS@m2p-labs.com

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