

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

pH calibration parameters Lot No. 2005211 (BioLector® Pro, filter module ID-221/-421)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	63.88	63.78	63.69	63.59	63.49	63.40	63.30
φ max	6.87	6.82	6.77	6.72	6.67	6.61	6.56
dpH	0.69	0.69	0.69	0.69	0.69	0.69	0.69
pH ₀	5.89	5.88	5.87	5.86	5.85	5.84	5.83
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	63.20	63.11	63.01	62.91	62.82	62.72	62.63
φ max	6.51	6.46	6.41	6.36	6.31	6.25	6.20
dpH	0.69	0.69	0.69	0.69	0.69	0.69	0.69
pH ₀	5.81	5.80	5.79	5.78	5.77	5.76	5.75
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	62.53	62.43	62.34	62.24	62.14	62.05	61.95
φ max	6.15	6.10	6.05	6.00	5.95	5.89	5.84
dpH	0.69	0.69	0.69	0.69	0.69	0.69	0.69
pH ₀	5.74	5.73	5.72	5.71	5.69	5.68	5.67

pH sensor properties

Dynamic range	pH 3.45 – 7.90
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.15 - 4.55; ± 0.1 pH at pH 4.55 – 6.70; ± 0.25 pH at pH 6.70 - 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 LG1-1810-01 (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 2.00 ± 0.01 / pH 3.00 ± 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 = LG1-RF-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic FlowerPlate (MTP-MF32-BOH2)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	pH -360.35 (pH Ser. 3305, gain 8)
Date of calibration	2020/04/24

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. 2005211 (BioLector® Pro, filter module ID-228/-428)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	70.07	70.04	70.02	69.99	69.97	69.95	69.92
ϕ cal100	41.77	41.59	41.41	41.22	41.04	40.86	40.68
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	69.90	69.88	69.85	69.83	69.80	69.78	69.76
ϕ cal100	40.50	40.32	40.14	39.96	39.78	39.60	39.42
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	69.73	69.71	69.69	69.66	69.64	69.61	69.59
ϕ cal100	39.24	39.06	38.88	38.69	38.51	38.33	38.15

DO sensor properties

Dynamic range	0 - 100 % air saturation (a.s.)
Resolution	Up to 0.1 % 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 (t90)	< 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 RF-194150162 (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 = LG1-RF-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic FlowerPlate (MTP-MF32-BOH2)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	DO -360.67 (DO Ser.4302-RD, gain 4)
Date of calibration	2020/04/24

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	754295
Date of sterilization	2020/04/20

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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

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 Phone +1 631 501 1878
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 Phone +852 6092 6778
 supportAsia@m2p-labs.com