

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

pH calibration parameters Lot No. 2009211 (BioLector® Pro, filter module ID-221/-421)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	68.16	68.09	68.01	67.93	67.85	67.77	67.69
φ max	11.35	11.29	11.24	11.18	11.13	11.08	11.02
dpH	0.76	0.76	0.76	0.75	0.75	0.75	0.75
pH ₀	6.35	6.34	6.33	6.32	6.31	6.30	6.29
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	67.61	67.53	67.46	67.38	67.30	67.22	67.14
φ max	10.97	10.91	10.86	10.80	10.75	10.69	10.64
dpH	0.75	0.75	0.75	0.75	0.75	0.75	0.75
pH ₀	6.28	6.27	6.26	6.25	6.24	6.23	6.22
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	67.06	66.98	66.90	66.83	66.75	66.67	66.59
φ max	10.59	10.53	10.48	10.42	10.37	10.31	10.26
dpH	0.75	0.74	0.74	0.74	0.74	0.74	0.74
pH ₀	6.21	6.20	6.19	6.18	6.17	6.16	6.15

pH sensor properties

Dynamic range	pH 3.70 – 8.25
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.45 – 4.90; ± 0.1 pH at pH 4.90 – 7.15; ± 0.25 pH at pH 7.15 – 7.55 (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 LG1-1840-01_2 (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 Round Plate (MTP-RMF32-BOH2)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	pH -360.15 (pH Ser. 3305, gain 8)
Date of calibration	2020/09/29

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DO calibration parameters Lot No. 2009211 (BioLector® Pro, filter module ID-228/-428)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	70.54	70.53	70.51	70.50	70.48	70.47	70.45
ϕ cal100	43.01	42.80	42.59	42.37	42.16	41.95	41.73
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	70.44	70.42	70.41	70.39	70.38	70.36	70.35
ϕ cal100	41.52	41.31	41.10	40.88	40.67	40.46	40.25
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	70.33	70.32	70.30	70.29	70.27	70.26	70.24
ϕ cal100	40.03	39.82	39.61	39.40	39.18	38.97	38.76

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 (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 RF-m2p-A 200950182 (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 Round Plate (MTP-RMF32-BOH2)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	DO -360.44 (DO Ser.4302-RD, gain 4)
Date of calibration	2020/09/29

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	803678
Date of sterilization	2020/09/16

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