

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

pH calibration parameters Lot No. 1930 (BioLector® II/Pro, filter module ID-221/421)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	65.13	65.08	65.03	64.98	64.93	64.88	64.82
ϕ max	6.65	6.63	6.61	6.59	6.57	6.55	6.53
dpH	0.68	0.68	0.68	0.68	0.68	0.68	0.68
pH ₀	5.82	5.82	5.81	5.81	5.80	5.80	5.79
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	64.77	64.72	64.67	64.62	64.57	64.52	64.47
ϕ max	6.51	6.49	6.47	6.45	6.44	6.42	6.40
dpH	0.68	0.68	0.67	0.67	0.67	0.67	0.67
pH ₀	5.79	5.78	5.78	5.77	5.77	5.77	5.76
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	64.42	64.37	64.32	64.27	64.22	64.17	64.11
ϕ max	6.38	6.36	6.34	6.32	6.30	6.28	6.26
dpH	0.67	0.67	0.67	0.67	0.67	0.67	0.67
pH ₀	5.76	5.75	5.75	5.74	5.74	5.73	5.73

pH sensor properties

Dynamic range	pH 3.25 – 7.75
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 3.90 – 4.30; ± 0.1 pH at pH 4.30 – 6.70; ± 0.25 pH at pH 6.70 - 7.10 (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 LG1-1816-01 (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 1.00 ± 0.01 / pH 2.00 ± 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-02-000F-0032
Calibration phase offset	pH -360.31 (pH Ser.3188-RD, gain 8)
Date of calibration	2019/06/18

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DO calibration parameters Lot No. 1930 (BioLector® II/Pro, filter module ID-228/428)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	68.12	68.10	68.09	68.07	68.06	68.04	68.03
φ cal100	42.90	42.77	42.65	42.52	42.40	42.27	42.15
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	68.01	68.00	67.98	67.96	67.95	67.93	67.92
φ cal100	42.02	41.90	41.77	41.65	41.52	41.40	41.28
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	67.90	67.89	67.87	67.86	67.84	67.83	67.81
φ cal100	41.15	41.03	40.90	40.78	40.65	40.53	40.40

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-12/2018 (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-02-000F-0032
Calibration phase offset	DO -360.39 (DO Ser.4170-RD, gain 4)
Date of calibration	2019/06/18

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	634165
Date of sterilization	2019/05/29

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