

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

pH calibration parameters Lot No. 1920 (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	65.91	65.81	65.70	65.60	65.50	65.40	65.30
ϕ max	7.02	6.97	6.93	6.89	6.84	6.80	6.75
dpH	0.71	0.71	0.71	0.71	0.71	0.71	0.71
pH ₀	5.98	5.97	5.96	5.95	5.94	5.93	5.93
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	65.20	65.10	65.00	64.90	64.79	64.69	64.59
ϕ max	6.71	6.67	6.62	6.58	6.53	6.49	6.45
dpH	0.71	0.71	0.70	0.70	0.70	0.70	0.70
pH ₀	5.92	5.91	5.90	5.89	5.88	5.87	5.87
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	64.49	64.39	64.29	64.19	64.09	63.99	63.88
ϕ max	6.40	6.36	6.31	6.27	6.23	6.18	6.14
dpH	0.70	0.70	0.70	0.70	0.70	0.70	0.70
pH ₀	5.86	5.85	5.84	5.83	5.82	5.81	5.81

pH sensor properties

Dynamic range	pH 3.35 - 7.90
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.00 - 4.45; ± 0.1 pH at pH 4.45 - 6.85; ± 0.25 pH at pH 6.85 - 7.25 (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-V1-1816-01 (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 = FlowerPlate (MTP-48-BOH2)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	pH -360.31 (pH Ser.3188-RD, gain 8)
Date of calibration	2019/04/24

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DO calibration parameters Lot No. 1920 (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	68.37	68.34	68.31	68.28	68.25	68.22	68.19
ϕ cal100	43.71	43.48	43.26	43.03	42.80	42.58	42.35
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	68.16	68.13	68.10	68.07	68.04	68.02	67.99
ϕ cal100	42.13	41.90	41.68	41.45	41.23	41.00	40.78
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	67.96	67.93	67.90	67.87	67.84	67.81	67.78
ϕ cal100	40.55	40.33	40.10	39.88	39.65	39.42	39.20

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 = FlowerPlate (MTP-48-BOH2)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	DO -360.39 (DO Ser.4170-RD, gain 4)
Date of calibration	2019/04/24

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	617573
Date of sterilization	2019/04/15

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