

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

pH calibration parameters Lot No.2109221 (BioLector® Pro, filter module ID-221/-421)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	66.86	66.79	66.71	66.64	66.56	66.49	66.41
φ max	13.13	13.07	13.01	12.94	12.88	12.82	12.75
dpH	0.76	0.76	0.76	0.76	0.76	0.76	0.76
pH ₀	6.58	6.57	6.56	6.55	6.54	6.53	6.53

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	66.34	66.26	66.18	66.11	66.03	65.96	65.88
φ max	12.69	12.63	12.56	12.50	12.44	12.38	12.31
dpH	0.76	0.75	0.75	0.75	0.75	0.75	0.75
pH ₀	6.52	6.51	6.50	6.49	6.48	6.47	6.46

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	65.81	65.73	65.66	65.58	65.51	65.43	65.36
φ max	12.25	12.19	12.12	12.06	12.00	11.93	11.87
dpH	0.75	0.75	0.75	0.75	0.75	0.75	0.75
pH ₀	6.45	6.44	6.44	6.43	6.42	6.41	6.40

pH sensor properties

Dynamic range	pH 4.00 - 8.60
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.75-5.20; ± 0.1 pH at pH 5.20-7.45; ± 0.25 pH at pH 7.45-7.90 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 1939-01 (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 Flower Plate (MTP-MF32C-BOH2)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	pH -360.15 (pH Ser. 3305, gain 8)
Date of calibration	2021-06-28

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DO calibration parameters Lot No.2109221 (BioLector® Pro, filter module ID-228/-428)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	71.97	71.95	71.93	71.91	71.90	71.88	71.86
ϕ cal100	41.79	41.62	41.45	41.28	41.11	40.94	40.77

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	71.84	71.82	71.80	71.78	71.77	71.75	71.73
ϕ cal100	40.60	40.42	40.25	40.08	39.91	39.74	39.57

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	71.71	71.69	71.67	71.66	71.64	71.62	71.60
ϕ cal100	39.40	39.23	39.06	38.89	38.72	38.55	38.38

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-A 210250002 (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 Flower Plate (MTP-MF32C-BOH2)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	DO -360.44 (DO Ser. 4302-RD, gain 4)
Date of calibration	2021-06-28

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	911184
Date of sterilization	2021-06-24

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