

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

pH calibration parameters Lot No.2112227 (BioLector® Pro, filter module ID-221/-421)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	67.02	66.99	66.95	66.92	66.89	66.86	66.82
φ max	13.07	13.03	12.98	12.94	12.90	12.85	12.81
dpH	0.83	0.83	0.82	0.82	0.82	0.82	0.82
pH ₀	6.67	6.66	6.65	6.64	6.64	6.63	6.62

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	66.79	66.76	66.73	66.69	66.66	66.63	66.60
φ max	12.76	12.72	12.68	12.63	12.59	12.54	12.50
dpH	0.82	0.82	0.82	0.82	0.82	0.82	0.82
pH ₀	6.61	6.61	6.60	6.59	6.58	6.58	6.57

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	66.56	66.53	66.50	66.47	66.43	66.40	66.37
φ max	12.46	12.41	12.37	12.32	12.28	12.24	12.19
dpH	0.82	0.82	0.82	0.82	0.82	0.82	0.82
pH ₀	6.56	6.55	6.55	6.54	6.53	6.52	6.52

pH sensor properties

Dynamic range	pH 4.05 - 8.90
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.80-5.30; ± 0.1 pH at pH 5.30-7.65; ± 0.25 pH at pH 7.65-8.15 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_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 Flower Plate (MTP-RMF32C-BOH2)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	pH -360.15 (pH Ser. 3305, gain 8)
Date of calibration	2021-09-01

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DO calibration parameters Lot No.2112227 (BioLector® Pro, filter module ID-228/-428)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	71.58	71.57	71.56	71.54	71.53	71.52	71.51
ϕ cal100	41.09	40.98	40.87	40.76	40.65	40.54	40.43

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	71.50	71.49	71.48	71.47	71.46	71.45	71.44
ϕ cal100	40.33	40.22	40.11	40.00	39.89	39.78	39.67

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	71.42	71.41	71.40	71.39	71.38	71.37	71.36
ϕ cal100	39.56	39.46	39.35	39.24	39.13	39.02	38.91

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-21160295 (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-RMF32C-BOH2)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	DO -360.44 (DO Ser. 4302-RD, gain 4)
Date of calibration	2021-09-01

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	932566
Date of sterilization	2021-08-17

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