

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

pH calibration parameters Lot No.2110221 and 2110227 (BioLector® Pro, filter module ID-221/-421)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	67.00	66.93	66.86	66.80	66.73	66.66	66.60
φ max	13.03	12.95	12.86	12.78	12.69	12.60	12.52
dpH	0.83	0.83	0.83	0.83	0.83	0.83	0.83
pH ₀	6.69	6.68	6.67	6.66	6.65	6.65	6.64

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	66.53	66.47	66.40	66.33	66.27	66.20	66.14
φ max	12.43	12.34	12.26	12.17	12.09	12.00	11.91
dpH	0.83	0.83	0.83	0.83	0.83	0.83	0.83
pH ₀	6.63	6.62	6.61	6.60	6.59	6.58	6.57

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	66.07	66.00	65.94	65.87	65.80	65.74	65.67
φ max	11.83	11.74	11.66	11.57	11.48	11.40	11.31
dpH	0.83	0.83	0.83	0.83	0.83	0.83	0.83
pH ₀	6.57	6.56	6.55	6.54	6.53	6.52	6.51

pH sensor properties

Dynamic range	pH 4.00 - 8.90
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.75-5.30; ± 0.1 pH at pH 5.30-7.60; ± 0.25 pH at pH 7.60-8.15 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-MF32C-BOH2)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	pH -360.15 (pH Ser. 3305, gain 8)
Date of calibration	2021-08-10

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DO calibration parameters Lot No.2110221 and 2110227 (BioLector® Pro, filter module ID-228/-428)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	71.83	71.81	71.80	71.79	71.77	71.76	71.75
ϕ cal100	42.43	42.25	42.07	41.89	41.71	41.53	41.35

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	71.73	71.72	71.71	71.69	71.68	71.67	71.65
ϕ cal100	41.17	40.99	40.81	40.62	40.44	40.26	40.08

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	71.64	71.63	71.61	71.60	71.59	71.57	71.56
ϕ cal100	39.90	39.72	39.54	39.36	39.18	39.00	38.82

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-210250003 (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	2021-08-10

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	928111
Date of sterilization	2021-08-05

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