

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

pH calibration parameters Lot No.2105221+2105227 (BioLector® Pro, filter module ID-221/-421)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	66.60	66.54	66.48	66.42	66.36	66.30	66.24
φ max	12.98	12.92	12.86	12.80	12.74	12.68	12.62
dpH	0.83	0.83	0.83	0.83	0.83	0.83	0.83
pH ₀	6.65	6.64	6.63	6.62	6.61	6.60	6.59

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	66.18	66.11	66.05	65.99	65.93	65.87	65.81
φ max	12.56	12.50	12.44	12.38	12.32	12.26	12.20
dpH	0.83	0.83	0.83	0.83	0.83	0.83	0.83
pH ₀	6.58	6.57	6.56	6.55	6.54	6.53	6.52

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	65.75	65.69	65.63	65.57	65.51	65.45	65.38
φ max	12.14	12.08	12.02	11.96	11.90	11.85	11.79
dpH	0.83	0.83	0.83	0.83	0.83	0.83	0.83
pH ₀	6.51	6.50	6.49	6.48	6.47	6.46	6.45

pH sensor properties

Dynamic range	pH 3.90 - 8.85
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.70-5.25; ± 0.1 pH at pH 5.25-7.50; ± 0.25 pH at pH 7.50-8.05 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	2021-04-08

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DO calibration parameters Lot No.2105221+2105227 (BioLector® Pro, filter module ID-228/-428)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	71.69	71.68	71.66	71.64	71.62	71.61	71.59
ϕ cal100	41.51	41.32	41.13	40.94	40.75	40.56	40.37

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	71.57	71.56	71.54	71.52	71.50	71.49	71.47
ϕ cal100	40.18	39.99	39.80	39.61	39.42	39.23	39.04

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	71.45	71.44	71.42	71.40	71.39	71.37	71.35
ϕ cal100	38.85	38.66	38.47	38.28	38.09	37.90	37.71

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-210250001 (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-B0H2)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	DO -360.44 (DO Ser. 4302-RD, gain 4)
Date of calibration	2021-04-08

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	880581
Date of sterilization	2021-04-02

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