

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

pH calibration parameters Lot No.2111211+2111217 (BioLector® Pro, filter module ID-221/-421)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	69.60	69.52	69.44	69.37	69.29	69.21	69.14
φ max	14.01	13.93	13.85	13.76	13.68	13.60	13.52
dpH	0.80	0.80	0.80	0.80	0.80	0.80	0.80
pH ₀	6.64	6.64	6.63	6.63	6.62	6.62	6.61

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	69.06	68.98	68.90	68.83	68.75	68.67	68.59
φ max	13.43	13.35	13.27	13.19	13.11	13.02	12.94
dpH	0.81	0.81	0.81	0.81	0.81	0.81	0.81
pH ₀	6.61	6.60	6.60	6.59	6.59	6.58	6.58

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	68.52	68.44	68.36	68.28	68.21	68.13	68.05
φ max	12.86	12.78	12.69	12.61	12.53	12.45	12.37
dpH	0.81	0.81	0.81	0.81	0.81	0.81	0.81
pH ₀	6.57	6.57	6.56	6.56	6.55	6.55	6.54

pH sensor properties

Dynamic range	pH 3.85 - 9.00
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.65-5.15; ± 0.1 pH at pH 5.15-7.70; ± 0.25 pH at pH 7.70-8.20 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 LG-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-MF32-BOH2)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	pH -360.15 (pH Ser. 3305, gain 8)
Date of calibration	2021-08-19

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DO calibration parameters Lot No.2111211+2111217 (BioLector® Pro, filter module ID-228/-428)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	71.81	71.80	71.79	71.78	71.77	71.76	71.75
ϕ cal100	41.55	41.40	41.25	41.10	40.95	40.80	40.65

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	71.74	71.73	71.72	71.71	71.70	71.69	71.68
ϕ cal100	40.49	40.34	40.19	40.04	39.89	39.74	39.59

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	71.67	71.66	71.65	71.64	71.63	71.61	71.60
ϕ cal100	39.44	39.29	39.14	38.99	38.84	38.69	38.54

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-MF32-BOH2)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	DO -360.44 (DO Ser. 4302-RD, gain 4)
Date of calibration	2021-08-19

Sterilization procedure

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

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