

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

pH calibration parameters Lot No. 2010221 (BioLector® Pro, filter module ID-221/-421)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	66.77	66.71	66.65	66.60	66.54	66.48	66.42
φ max	9.62	9.58	9.53	9.48	9.44	9.39	9.34
dpH	0.67	0.67	0.67	0.68	0.68	0.68	0.68
pH ₀	6.19	6.18	6.17	6.16	6.15	6.14	6.13
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	66.36	66.31	66.25	66.19	66.13	66.07	66.01
φ max	9.30	9.25	9.20	9.16	9.11	9.06	9.01
dpH	0.68	0.68	0.68	0.68	0.68	0.68	0.68
pH ₀	6.12	6.11	6.10	6.09	6.08	6.07	6.06
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	65.96	65.90	65.84	65.78	65.72	65.67	65.61
φ max	8.97	8.92	8.87	8.83	8.78	8.73	8.69
dpH	0.68	0.68	0.68	0.68	0.68	0.68	0.68
pH ₀	6.05	6.04	6.03	6.02	6.01	6.00	5.99

pH sensor properties

Dynamic range	pH 3.9 – 8.05
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.5 – 4.85; ± 0.1 pH at pH 4.85 – 7.05; ± 0.25 pH at pH 7.05 – 7.45 (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-v1-1840-01_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 (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	2020/10/27

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DO calibration parameters Lot No. 2010221 (BioLector® Pro, filter module ID-228/-428)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	69.69	69.68	69.66	69.65	69.64	69.63	69.62
ϕ cal100	41.31	41.15	40.98	40.82	40.65	40.48	40.32
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	69.61	69.60	69.58	69.57	69.56	69.55	69.54
ϕ cal100	40.15	39.99	39.82	39.65	39.49	39.32	39.16
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	69.53	69.52	69.51	69.49	69.48	69.47	69.46
ϕ cal100	38.99	38.82	38.66	38.49	38.33	38.16	37.99

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-m2p-A 202850572 (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 (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	2020/10/27

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	815113
Date of sterilization	2020/10/15

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