

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

pH calibration parameters Lot No. 1941 (BioLector® Pro, filter module ID-221/421)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	63.81	63.76	63.71	63.65	63.60	63.55	63.50
ϕ max	6.46	6.46	6.45	6.44	6.43	6.42	6.41
dpH	0.71	0.71	0.71	0.70	0.70	0.70	0.70
pH ₀	5.91	5.91	5.91	5.90	5.90	5.89	5.89
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	63.44	63.39	63.34	63.28	63.23	63.18	63.13
ϕ max	6.40	6.39	6.38	6.38	6.37	6.36	6.35
dpH	0.70	0.70	0.70	0.69	0.69	0.69	0.69
pH ₀	5.89	5.88	5.88	5.87	5.87	5.87	5.86
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	63.07	63.02	62.97	62.92	62.86	62.81	62.76
ϕ max	6.34	6.33	6.32	6.31	6.30	6.30	6.29
dpH	0.69	0.69	0.68	0.68	0.68	0.68	0.68
pH ₀	5.86	5.85	5.85	5.85	5.84	5.84	5.83

pH sensor properties

Dynamic range	pH 3.60 - 8.25
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.30 - 4.75; ± 0.1 pH at pH 4.75 - 7.15; ± 0.25 pH at pH 7.15 - 7.60 (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 LG1-1816-01 (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 FlowerPlate (MTP-MF32-BOH2)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	pH -360.31 (pH Ser.3188-RD, gain 8)
Date of calibration	2019/10/28

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DO calibration parameters Lot No. 1941 (BioLector® Pro, filter module ID-228/428)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	67.58	67.56	67.54	67.53	67.51	67.49	67.47
φ cal100	42.28	42.16	42.03	41.91	41.79	41.67	41.55
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	67.46	67.44	67.42	67.40	67.39	67.37	67.35
φ cal100	41.42	41.30	41.18	41.06	40.94	40.81	40.69
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	67.33	67.32	67.30	67.28	67.26	67.25	67.23
φ cal100	40.57	40.45	40.32	40.20	40.08	39.96	39.84

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 (t90)	< 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 12/2018 (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 FlowerPlate (MTP-MF32-BOH2)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	DO -360.39 (DO Ser.4170-RD, gain 4)
Date of calibration	2019/10/28

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	671293
Date of sterilization	2019/09/10

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