

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

pH calibration parameters Lot No.2112321 (BioLector® Pro, filter module ID-424)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	65.59	65.68	65.78	65.87	65.97	66.06	66.16
φ max	12.81	12.84	12.88	12.91	12.95	12.98	13.01
dpH	-0.42	-0.42	-0.42	-0.42	-0.41	-0.41	-0.41
pH ₀	5.38	5.37	5.37	5.36	5.36	5.35	5.35

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	66.25	66.35	66.44	66.54	66.63	66.73	66.82
φ max	13.05	13.08	13.12	13.15	13.19	13.22	13.26
dpH	-0.41	-0.41	-0.41	-0.41	-0.41	-0.41	-0.41
pH ₀	5.34	5.34	5.33	5.33	5.32	5.32	5.31

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	66.92	67.01	67.11	67.20	67.30	67.39	67.49
φ max	13.29	13.33	13.36	13.40	13.43	13.47	13.50
dpH	-0.41	-0.41	-0.40	-0.40	-0.40	-0.40	-0.40
pH ₀	5.31	5.30	5.30	5.29	5.29	5.28	5.28

pH sensor properties

Dynamic range	pH 3.80 - 6.60
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.10-4.30; ± 0.1 pH at pH 4.30-6.10; ± 0.25 pH at pH 6.10-6.30 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 pH51-202850548+549 (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 7.00 ± 0.01 / pH 8.00 ± 0.03, 20 °C); 150 mM Citrat-Na-Phosphate buffer (16 solutions)
Settings	BioLector protocol = pH51-RF-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic Flower Plate (MTP-MF32C-BOH3)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	pH -360.10 (pH Ser. 3288, gain 6)
Date of calibration	2021-08-27

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DO calibration parameters Lot No.2112321 (BioLector® Pro, filter module ID-228/-428)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	71.44	71.42	71.41	71.39	71.38	71.36	71.35
ϕ cal100	41.72	41.55	41.39	41.22	41.05	40.88	40.72

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	71.33	71.32	71.30	71.29	71.27	71.26	71.25
ϕ cal100	40.55	40.38	40.22	40.05	39.88	39.71	39.55

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	71.23	71.22	71.20	71.19	71.17	71.16	71.14
ϕ cal100	39.38	39.21	39.05	38.88	38.71	38.54	38.38

DO sensor properties

Dynamic range	0 - 100 % air saturation (a.s.)
Resolution	Up to 0.1 % O2 (software)
Accuracy	± 5% dissolved oxygen (batch calibration)
Drift at 0% oxygen	< 0.5% O2 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-21160295 (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 = pH51-RF-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic Flower Plate (MTP-MF32C-BOH3)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	DO -360.44 (DO Ser. 4302-RD, gain 4)
Date of calibration	2021-08-27

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	932566
Date of sterilization	2021-08-17

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