

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

pH calibration parameters Lot No. 1903 (BioLector® II/Pro, filter module ID-424)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	67.35	67.39	67.42	67.46	67.50	67.53	67.57
ϕ max	14.56	14.59	14.62	14.65	14.67	14.70	14.73
dpH	-0.42	-0.42	-0.42	-0.42	-0.42	-0.42	-0.42
pH ₀	5.38	5.38	5.37	5.37	5.37	5.36	5.36
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	67.61	67.64	67.68	67.72	67.75	67.79	67.83
ϕ max	14.76	14.79	14.82	14.85	14.88	14.91	14.93
dpH	-0.42	-0.42	-0.41	-0.41	-0.41	-0.41	-0.41
pH ₀	5.36	5.36	5.35	5.35	5.35	5.34	5.34
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	67.86	67.90	67.94	67.97	68.01	68.05	68.08
ϕ max	14.96	14.99	15.02	15.05	15.08	15.11	15.14
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	5.33	5.32	5.32

pH sensor properties

Dynamic range	pH 3.70 - 6.70
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.05 - 4.25; ± 0.1 pH at pH 4.25 - 6.15; ± 0.25 pH at pH 6.15 - 6.35 (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	15 °C to 40 °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);
Basic material	pH sensor pH51-1845000006 (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 6.00 ± 0.01 / pH 7.00 ± 0.03, 20 °C); 150 mM Citrat-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 Round Well Plate (MTP-RMF32-BOH3)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	pH -360.68 (pH Ser. 3289-RD, gain 6)
Date of calibration	2019/02/21

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DO calibration parameters Lot No. 1903 (BioLector® II/Pro, filter module ID-228/428)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	67.76	67.75	67.75	67.74	67.74	67.73	67.73
φ cal100	42.55	42.42	42.30	42.18	42.06	41.94	41.81
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	67.72	67.72	67.72	67.71	67.71	67.70	67.70
φ cal100	41.69	41.57	41.45	41.33	41.21	41.08	40.96
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	67.69	67.69	67.68	67.68	67.67	67.67	67.66
φ cal100	40.84	40.72	40.60	40.47	40.35	40.23	40.11

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-07/2018 (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 = pH51-RF-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic Round Well Plate (MTP-RMF32-BOH3)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	DO -360.39 (DO Ser.4170-RD, gain 4)
Date of calibration	2019/02/21

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	589719
Date of sterilization	2018/01/31

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