

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

pH calibration parameters Lot No. 1904 (BioLector® II/Pro, filter module ID-202/402)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	63.29	63.26	63.23	63.19	63.16	63.13	63.09
ϕ max	14.03	14.03	14.03	14.03	14.03	14.03	14.03
dpH	0.53	0.53	0.53	0.53	0.53	0.53	0.53
pH ₀	6.23	6.23	6.23	6.22	6.22	6.22	6.21
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	63.06	63.03	62.99	62.96	62.93	62.89	62.86
ϕ max	14.03	14.03	14.03	14.03	14.03	14.03	14.03
dpH	0.53	0.53	0.53	0.53	0.53	0.53	0.53
pH ₀	6.21	6.21	6.20	6.20	6.20	6.19	6.19
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	62.83	62.79	62.76	62.72	62.69	62.66	62.62
ϕ max	14.04	14.04	14.04	14.04	14.04	14.04	14.04
dpH	0.53	0.53	0.53	0.53	0.53	0.53	0.53
pH ₀	6.19	6.19	6.18	6.18	6.18	6.17	6.17

pH sensor properties

Dynamic range	pH 3.65 – 8.40
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.10 - 4.60; ± 0.1 pH at pH 4.60 – 7.45; ± 0.25 pH at pH 7.45 - 8.00 (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 HP8-1811-01 (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 3.00 ± 0.01 / pH 4.00 ± 0.015 / pH 9.00 ± 0.01 / pH 10.00 ± 0.03, 20 °C); 150 mM Na-Phosphate buffer (16 solutions)
Settings	BioLector protocol = pH-DO-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic FlowerPlate (MTP-MF32-BOH1)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	pH -1.40 (pH Ser.3111-hc. gain 7)
Date of calibration	2019/03/01

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DO calibration parameters Lot No. 1904 (BioLector® II/Pro, filter module ID-203/403)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	71.76	71.73	71.70	71.68	71.65	71.63	71.60
φ cal100	43.07	42.96	42.85	42.75	42.64	42.54	42.43
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	71.58	71.55	71.53	71.50	71.47	71.45	71.42
φ cal100	42.32	42.22	42.11	42.00	41.90	41.79	41.69
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	71.40	71.37	71.35	71.32	71.30	71.27	71.24
φ cal100	41.58	41.47	41.37	41.26	41.15	41.05	40.94

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 Pst3-HG-1742-02 (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 = pH-DO-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic FlowerPlate (MTP-MF32-BOH1)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	DO -360.25 (DO Ser.4103-hc. gain 7)
Date of calibration	2019/03/01

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	589719
Date of sterilization	20119/01/31

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