

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

pH calibration parameters Lot No. 1926 (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	63.33	63.29	63.25	63.21	63.16	63.12	63.08
φ max	12.75	12.75	12.75	12.76	12.76	12.76	12.76
dpH	0.56	0.56	0.56	0.56	0.56	0.56	0.56
pH ₀	6.19	6.18	6.18	6.17	6.17	6.16	6.16
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	63.04	63.00	62.95	62.91	62.87	62.83	62.79
φ max	12.77	12.77	12.77	12.77	12.78	12.78	12.78
dpH	0.56	0.56	0.55	0.55	0.55	0.55	0.55
pH ₀	6.15	6.15	6.14	6.14	6.13	6.13	6.13
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	62.75	62.70	62.66	62.62	62.58	62.54	62.49
φ max	12.78	12.79	12.79	12.79	12.79	12.79	12.80
dpH	0.55	0.55	0.55	0.55	0.55	0.55	0.55
pH ₀	6.12	6.12	6.11	6.11	6.10	6.10	6.09

pH sensor properties

Dynamic range	pH 4.10 - 7.80
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.65 - 4.95; ± 0.1 pH at pH 4.95 - 7.00; ± 0.25 pH at pH 7.00 - 7.30 (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 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	2019/05/17

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DO calibration parameters Lot No. 1926 (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	71.72	71.70	71.68	71.65	71.63	71.60	71.58
ϕ cal100	42.81	42.69	42.57	42.46	42.34	42.23	42.11
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	71.56	71.53	71.51	71.49	71.46	71.44	71.41
ϕ cal100	41.99	41.88	41.76	41.65	41.53	41.41	41.30
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	71.39	71.37	71.34	71.32	71.30	71.27	71.25
ϕ cal100	41.18	41.07	40.95	40.83	40.72	40.60	40.48

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-1810-01 (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	2019/05/17

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	625276
Date of sterilization	2019/05/07

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