

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

pH calibration parameters Lot No. 1935 (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	63.87	63.84	63.80	63.77	63.73	63.70	63.66
ϕ max	13.95	13.95	13.95	13.94	13.94	13.94	13.94
dpH	0.53	0.53	0.53	0.53	0.53	0.53	0.53
pH ₀	6.24	6.24	6.24	6.23	6.23	6.23	6.22
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	63.63	63.59	63.56	63.53	63.49	63.46	63.42
ϕ max	13.93	13.93	13.93	13.93	13.92	13.92	13.92
dpH	0.53	0.53	0.53	0.53	0.53	0.54	0.54
pH ₀	6.22	6.22	6.21	6.21	6.21	6.20	6.20
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	63.39	63.35	63.32	63.28	63.25	63.21	63.18
ϕ max	13.92	13.91	13.91	13.91	13.91	13.90	13.90
dpH	0.54	0.54	0.54	0.54	0.54	0.54	0.54
pH ₀	6.20	6.19	6.19	6.19	6.18	6.18	6.18

pH sensor properties

Dynamic range	pH 4.30 - 7.85
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.80 - 5.05; ± 0.1 pH at pH 5.05 - 7.05; ± 0.25 pH at pH 7.05 - 7.35 (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	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_2 (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 = FlowerPlate (MTP-48-BOH1)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	pH -1.40 (pH Ser.3111, gain 7)
Date of calibration	2019/08/29

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DO calibration parameters Lot No. 1935 (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	72.63	72.60	72.57	72.54	72.51	72.48	72.45
φ cal100	42.84	42.74	42.64	42.54	42.45	42.35	42.25
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	72.42	72.39	72.36	72.33	72.30	72.27	72.24
φ cal100	42.15	42.06	41.96	41.86	41.76	41.66	41.57
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	72.21	72.18	72.15	72.12	72.09	72.06	72.03
φ cal100	41.47	41.37	41.27	41.18	41.08	40.98	40.88

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_2 (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 = FlowerPlate (MTP-48-BOH1)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	DO -360.25 (DO Ser.4103, gain 7)
Date of calibration	2019/08/29

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	658230
Date of sterilization	2019/08/05

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