

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

pH calibration parameters Lot No. 1719 (BioLector® II/Pro, filter module ID-202)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	64.94	64.87	64.81	64.75	64.69	64.62	64.56
ϕ max	16.96	16.95	16.93	16.92	16.90	16.89	16.88
dpH	0.55	0.55	0.55	0.55	0.55	0.55	0.55
pH ₀	6.50	6.49	6.48	6.47	6.46	6.45	6.44
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	64.50	64.44	64.37	64.31	64.25	64.18	64.12
ϕ max	16.86	16.85	16.83	16.82	16.80	16.79	16.77
dpH	0.55	0.55	0.55	0.55	0.55	0.55	0.55
pH ₀	6.43	6.42	6.41	6.40	6.39	6.38	6.37
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	64.06	64.00	63.93	63.87	63.81	63.74	63.68
ϕ max	16.76	16.74	16.73	16.72	16.70	16.69	16.67
dpH	0.55	0.55	0.55	0.55	0.55	0.55	0.55
pH ₀	6.36	6.35	6.34	6.33	6.32	6.31	6.30

pH sensor properties

Dynamic range	pH 3.85 - 8.50
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.30 - 4.90; ± 0.1 pH at pH 4.90 – 7.50; ± 0.25 pH at pH 7.50 - 8.08 (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 HP8-1427-02_3 (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-BOH)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	pH -1.180 (pH Ser.3111-RD, gain 7)
Date of calibration	2017/10/24

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DO calibration parameters Lot No. 1719 (BioLector® II/Pro, filter module ID-203)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	71.96	71.92	71.88	71.85	71.81	71.77	71.74
ϕ cal100	44.96	44.73	44.50	44.27	44.03	43.80	43.57
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	71.70	71.66	71.62	71.59	71.55	71.51	71.48
ϕ cal100	43.33	43.10	42.87	42.63	42.40	42.17	41.94
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	71.44	71.40	71.37	71.33	71.29	71.26	71.22
ϕ cal100	41.70	41.47	41.24	41.00	40.77	40.54	40.30

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-1426-03_3 (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-BOH)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	DO -360.59 (DO Ser.4103-RD, gain 7)
Date of calibration	2017/10/24

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	426134
Date of sterilization	2017/10/17

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