

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

pH calibration parameters Lot No. 1715 (BioLector® II/Pro, filter module ID-202)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	65.02	64.93	64.85	64.77	64.69	64.61	64.53
φ max	17.65	17.63	17.61	17.58	17.56	17.54	17.52
dpH	0.53	0.53	0.53	0.53	0.53	0.53	0.53
pH ₀	6.60	6.59	6.58	6.57	6.56	6.55	6.54
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	64.45	64.37	64.28	64.20	64.12	64.04	63.96
φ max	17.49	17.47	17.45	17.43	17.40	17.38	17.36
dpH	0.52	0.52	0.52	0.52	0.52	0.52	0.52
pH ₀	6.53	6.52	6.51	6.50	6.49	6.48	6.47
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	63.88	63.80	63.72	63.63	63.55	63.47	63.39
φ max	17.34	17.31	17.29	17.27	17.25	17.22	17.20
dpH	0.52	0.52	0.52	0.52	0.52	0.52	0.52
pH ₀	6.46	6.45	6.44	6.43	6.42	6.41	6.40

pH sensor properties

Dynamic range	pH 3.95 - 8.60
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.40 - 5.00; ± 0.1 pH at pH 5.00 – 7.55; ± 0.25 pH at pH 7.55 - 8.15 (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	2017/08/22

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DO calibration parameters Lot No. 1715 (BioLector® II/Pro, filter module ID-203)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	72.11	72.06	72.01	71.96	71.92	71.87	71.82
ϕ cal100	45.02	44.78	44.55	44.31	44.08	43.84	43.61
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	71.77	71.72	71.67	71.62	71.58	71.53	71.48
ϕ cal100	43.37	43.14	42.90	42.67	42.43	42.20	41.96
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	71.43	71.38	71.33	71.29	71.24	71.19	71.14
ϕ cal100	41.73	41.49	41.26	41.02	40.79	40.55	40.32

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	2017/08/22

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	404586
Date of sterilization	2017/08/17

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