

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

pH calibration parameters Lot No. 1924 (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	63.42	63.38	63.34	63.30	63.26	63.22	63.18
φ max	12.92	12.92	12.92	12.92	12.92	12.92	12.92
dpH	0.55	0.55	0.55	0.55	0.55	0.55	0.55
pH ₀	6.13	6.13	6.13	6.12	6.12	6.11	6.11
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	63.14	63.09	63.05	63.01	62.97	62.93	62.89
φ max	12.92	12.92	12.92	12.92	12.92	12.92	12.92
dpH	0.55	0.55	0.55	0.55	0.55	0.55	0.55
pH ₀	6.10	6.10	6.10	6.09	6.09	6.08	6.08
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	62.85	62.81	62.77	62.73	62.69	62.65	62.61
φ max	12.92	12.92	12.92	12.92	12.92	12.92	12.92
dpH	0.55	0.55	0.55	0.55	0.55	0.55	0.55
pH ₀	6.07	6.07	6.07	6.06	6.06	6.05	6.05

pH sensor properties

Dynamic range	pH 4.15 - 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 = 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	2019/05/09

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DO calibration parameters Lot No. 1924 (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	71.51	71.48	71.44	71.41	71.38	71.35	71.31
ϕ cal100	43.36	43.25	43.13	43.01	42.89	42.78	42.66
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	71.28	71.25	71.21	71.18	71.15	71.12	71.08
ϕ cal100	42.54	42.43	42.31	42.19	42.08	41.96	41.84
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	71.05	71.02	70.98	70.95	70.92	70.89	70.85
ϕ cal100	41.73	41.61	41.49	41.37	41.26	41.14	41.02

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 = 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	2019/05/09

Sterilization procedure

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

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