

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

pH calibration parameters Lot No. 2011101 (BioLector® II, filter module ID-202/-402)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	63.63	63.57	63.50	63.43	63.37	63.30	63.24
φ max	13.71	13.72	13.73	13.74	13.75	13.76	13.77
dpH	0.55	0.55	0.55	0.55	0.55	0.55	0.55
pH ₀	6.32	6.31	6.30	6.29	6.29	6.28	6.27
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	63.17	63.10	63.04	62.97	62.90	62.84	62.77
φ max	13.78	13.79	13.80	13.81	13.82	13.83	13.84
dpH	0.55	0.55	0.55	0.55	0.55	0.55	0.55
pH ₀	6.26	6.25	6.24	6.23	6.22	6.22	6.21
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	62.70	62.64	62.57	62.51	62.44	62.37	62.31
φ max	13.85	13.86	13.87	13.88	13.89	13.90	13.91
dpH	0.55	0.55	0.55	0.55	0.55	0.55	0.55
pH ₀	6.20	6.19	6.18	6.17	6.16	6.15	6.15

pH sensor properties

Dynamic range	pH 4.35 – 7.80
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.85 – 5.15; ± 0.1 pH at pH 5.15 – 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_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 Citrat-Na-Phosphate buffer (16 solutions)
Settings	BioLector protocol = HP8-PSt3-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Flower and Round (MTP-48-BOH1 and MTP-48-BO1)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	pH-1.46 (pH Ser. 3111, gain 7)
Date of calibration	2020/12/01

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DO calibration parameters Lot No. 2011101 and 2011181 (BioLector® II, filter module ID-203/-403)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	72.62	72.58	72.53	72.49	72.44	72.40	72.35
ϕ cal100	44.23	44.01	43.79	43.57	43.35	43.13	42.90
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	72.31	72.26	72.22	72.17	72.13	72.08	72.04
ϕ cal100	42.68	42.46	42.24	42.02	41.80	41.58	41.35
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	71.99	71.95	71.90	71.86	71.81	71.77	71.72
ϕ cal100	41.13	40.91	40.69	40.47	40.25	40.03	39.80

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 (t ₉₀)	< 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_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 = HP8-PSt3-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Flower and Round (MTP-48-BOH1 and MTP-48-BO1)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	DO -360.26 (DO Ser.4103, gain 7)
Date of calibration	2020/12/01

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	829779
Date of sterilization	2020/11/23

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