

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

pH calibration parameters Lot No. 1921 (BioLector® Pro, filter module ID-202/402)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	62.62	62.60	62.58	62.57	62.55	62.54	62.52
φ max	13.43	13.43	13.42	13.42	13.42	13.41	13.41
dpH	0.52	0.52	0.52	0.52	0.53	0.53	0.53
pH ₀	6.35	6.34	6.34	6.34	6.33	6.33	6.32
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	62.51	62.49	62.47	62.46	62.44	62.43	62.41
φ max	13.41	13.40	13.40	13.40	13.39	13.39	13.39
dpH	0.53	0.53	0.53	0.53	0.53	0.53	0.53
pH ₀	6.32	6.32	6.31	6.31	6.30	6.30	6.30
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	62.39	62.38	62.36	62.35	62.33	62.32	62.30
φ max	13.38	13.38	13.38	13.37	13.37	13.37	13.36
dpH	0.53	0.53	0.53	0.53	0.53	0.53	0.53
pH ₀	6.29	6.29	6.29	6.28	6.28	6.27	6.27

pH sensor properties

Dynamic range	pH 4.40 - 7.95
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.90 - 5.20; ± 0.1 pH at pH 5.20 - 7.20; ± 0.25 pH at pH 7.20 - 7.50 (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-MF32-BOH1)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	pH -1.40 (pH Ser.3111-hc, gain 7)
Date of calibration	2019/04/26

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DO calibration parameters Lot No. 1921 (BioLector® Pro, filter module ID-203/403)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	71.70	71.70	71.69	71.69	71.68	71.68	71.67
ϕ cal100	42.69	42.58	42.47	42.36	42.25	42.14	42.03
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	71.67	71.67	71.66	71.66	71.65	71.65	71.64
ϕ cal100	41.93	41.82	41.71	41.60	41.49	41.38	41.27
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	71.64	71.63	71.63	71.62	71.62	71.61	71.61
ϕ cal100	41.17	41.06	40.95	40.84	40.73	40.62	40.51

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-MF32-BOH1)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	DO -360.25 (DO Ser.4103-hc, gain 7)
Date of calibration	2019/04/26

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	617573
Date of sterilization	2019/04/15

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