

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

**pH calibration parameters Lot No.2106207 (BioLector® II/Pro, filter module ID-221/-421)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	70.28	70.22	70.15	70.08	70.02	69.95	69.89
φ max	14.27	14.21	14.14	14.08	14.01	13.95	13.88
dpH	0.83	0.83	0.83	0.83	0.83	0.82	0.82
pH <sub>0</sub>	6.65	6.64	6.64	6.63	6.63	6.62	6.61

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	69.82	69.75	69.69	69.62	69.55	69.49	69.42
φ max	13.82	13.75	13.69	13.62	13.56	13.49	13.43
dpH	0.82	0.82	0.82	0.82	0.82	0.82	0.82
pH <sub>0</sub>	6.61	6.60	6.59	6.59	6.58	6.57	6.57

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	69.36	69.29	69.22	69.16	69.09	69.03	68.96
φ max	13.36	13.30	13.23	13.17	13.10	13.04	12.97
dpH	0.82	0.82	0.82	0.82	0.82	0.82	0.82
pH <sub>0</sub>	6.56	6.56	6.55	6.54	6.54	6.53	6.52

### pH sensor properties

Dynamic range	pH 3.85 - 8.95
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.65-5.15; ± 0.1 pH at pH 5.15-7.65; ± 0.25 pH at pH 7.65-8.15 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 LG1-1939-01_2 (at least stable for 7 days with CertiPUR-buffer) <b>pH sensors are light-sensitive; please protect them from direct light!</b>

### pH calibration

Buffer	CertiPUR Reference Material Buffer solutions Set (pH 2.00 ± 0.01 / pH 3.00 ± 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 = LG1-RF-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Round Well Plate (MTP-R48-BOH2)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	pH -360.15 (pH Ser. 3305, gain 8)
Date of calibration	2021-06-18

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**DO calibration parameters Lot No.2106207 (BioLector® II/Pro, filter module ID-228/-428)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	72.34	72.33	72.31	72.30	72.29	72.28	72.27
ϕ cal100	43.22	43.05	42.89	42.72	42.56	42.40	42.23

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	72.26	72.24	72.23	72.22	72.21	72.20	72.19
ϕ cal100	42.07	41.91	41.74	41.58	41.41	41.25	41.09

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	72.17	72.16	72.15	72.14	72.13	72.11	72.10
ϕ cal100	40.92	40.76	40.59	40.43	40.27	40.10	39.94

**DO sensor properties**

Dynamic range	0 - 100 % air saturation (a.s.)
Resolution	Up to 0.1 % O <sub>2</sub> (software)
Accuracy	± 5% dissolved oxygen (batch calibration)
Drift at 0% oxygen	< 0.5% O <sub>2</sub> per day (sampling interval of 6 min)
Response time (t <sub>90</sub> )	< 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 RF-210250001 (at least stable for 7 days with CertiPUR-buffer) <b>DO sensors are light-sensitive; please protect them from direct light!</b>

**DO calibration**

Calibration	0.5 M Sulfite system (Two-point calibration with oxygen-free environment (sodium sulfite) and air-saturated environment)
Settings	BioLector protocol = LG1-RF-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Round Well Plate (MTP-R48-BOH2)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	DO -360.44 (DO Ser. 4302-RD, gain 4)
Date of calibration	2021-06-18

**Sterilization procedure**

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	899513
Date of sterilization	2021-05-26

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