

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

**pH calibration parameters Lot No.2113207 (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	70.14	70.09	70.03	69.97	69.92	69.86	69.80
φ max	13.39	13.33	13.27	13.20	13.14	13.07	13.01
dpH	0.79	0.79	0.79	0.79	0.79	0.79	0.79
pH <sub>0</sub>	6.66	6.65	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	69.75	69.69	69.63	69.58	69.52	69.46	69.41
φ max	12.95	12.88	12.82	12.75	12.69	12.63	12.56
dpH	0.79	0.79	0.79	0.79	0.79	0.79	0.79
pH <sub>0</sub>	6.61	6.60	6.59	6.58	6.58	6.57	6.56

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	69.35	69.29	69.24	69.18	69.12	69.07	69.01
φ max	12.50	12.43	12.37	12.31	12.24	12.18	12.11
dpH	0.79	0.79	0.79	0.79	0.79	0.79	0.79
pH <sub>0</sub>	6.56	6.55	6.54	6.53	6.53	6.52	6.51

**pH sensor properties**

Dynamic range	pH 4.00 - 8.85
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.75-5.20; ± 0.1 pH at pH 5.20-7.65; ± 0.25 pH at pH 7.65-8.10 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 ± 0.02 / pH 3.00 ± 0.02 / pH 9.00 ± 0.03 / 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	2021-09-15

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**DO calibration parameters Lot No.2113207 (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	71.86	71.85	71.84	71.83	71.82	71.81	71.80
φ cal100	41.93	41.77	41.61	41.45	41.29	41.13	40.97

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	71.79	71.79	71.78	71.77	71.76	71.75	71.74
φ cal100	40.81	40.64	40.48	40.32	40.16	40.00	39.84

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	71.73	71.72	71.71	71.70	71.69	71.68	71.67
φ cal100	39.68	39.52	39.36	39.20	39.04	38.88	38.71

**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-21160295 (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	2021-09-15

**Sterilization procedure**

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	941459
Date of sterilization	2021-09-09

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