

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

**pH calibration parameters Lot No.2114301 and 2114307 (BioLector® II/Pro, filter module ID-424)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	70.29	70.32	70.35	70.38	70.41	70.44	70.47
φ max	16.69	16.73	16.78	16.83	16.88	16.92	16.97
dpH	-0.45	-0.45	-0.45	-0.45	-0.45	-0.45	-0.45
pH <sub>0</sub>	5.30	5.30	5.29	5.28	5.28	5.27	5.27

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	70.51	70.54	70.57	70.60	70.63	70.66	70.69
φ max	17.02	17.07	17.11	17.16	17.21	17.25	17.30
dpH	-0.45	-0.44	-0.44	-0.44	-0.44	-0.44	-0.44
pH <sub>0</sub>	5.26	5.25	5.25	5.24	5.23	5.23	5.22

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	70.72	70.75	70.78	70.82	70.85	70.88	70.91
φ max	17.35	17.40	17.44	17.49	17.54	17.59	17.63
dpH	-0.44	-0.44	-0.43	-0.43	-0.43	-0.43	-0.43
pH <sub>0</sub>	5.22	5.21	5.20	5.20	5.19	5.18	5.18

**pH sensor properties**

Dynamic range	pH 3.55 - 6.75
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 3.95-4.15; ± 0.1 pH at pH 4.15-6.15; ± 0.25 pH at pH 6.15-6.40 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 pH51-211650282 (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 7.00 ± 0.02 / pH 8.00 ± 0.03, 20 °C); 150 mM Citrat-Na-Phosphate buffer (16 solutions)
Settings	BioLector protocol = pH51-RF-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Flower Plate (MTP-48-BOH3)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	pH -360.10 (pH Ser. 3288, gain 6)
Date of calibration	2021-10-11

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**DO calibration parameters Lot No.2114301 and 2114307 (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	71.35	71.33	71.32	71.31	71.30	71.28	71.27
φ cal100	41.18	41.00	40.82	40.64	40.46	40.29	40.11

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	71.26	71.25	71.24	71.22	71.21	71.20	71.19
φ cal100	39.93	39.75	39.57	39.40	39.22	39.04	38.86

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	71.17	71.16	71.15	71.14	71.12	71.11	71.10
φ cal100	38.68	38.51	38.33	38.15	37.97	37.79	37.61

**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-21160296 (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 = pH51-RF-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Flower Plate (MTP-48-BOH3)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	DO -360.44 (DO Ser. 4302-RD, gain 4)
Date of calibration	2021-10-11

**Sterilization procedure**

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	952124
Date of sterilization	2021-10-05

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