

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

**pH calibration parameters Lot No.2102101 and 2102107 (BioLector® I, filter module ID-102/-302)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	56.80	56.72	56.65	56.58	56.51	56.43	56.36
φ max	10.22	10.24	10.25	10.26	10.27	10.29	10.30
dpH	0.59	0.59	0.59	0.59	0.59	0.59	0.59
pH <sub>0</sub>	6.09	6.09	6.08	6.07	6.06	6.06	6.05

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	56.29	56.22	56.14	56.07	56.00	55.93	55.86
φ max	10.31	10.32	10.34	10.35	10.36	10.37	10.39
dpH	0.59	0.59	0.59	0.59	0.58	0.58	0.58
pH <sub>0</sub>	6.04	6.04	6.03	6.02	6.02	6.01	6.00

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	55.78	55.71	55.64	55.57	55.49	55.42	55.35
φ max	10.40	10.41	10.42	10.43	10.45	10.46	10.47
dpH	0.58	0.58	0.58	0.58	0.58	0.58	0.58
pH <sub>0</sub>	6.00	5.99	5.98	5.97	5.97	5.96	5.95

**pH sensor properties**

Dynamic range	pH 4.00 - 7.70
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.55-4.95; ± 0.1 pH at pH 4.95-6.80; ± 0.25 pH at pH 6.80-7.15 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 HP8-1811-01_3 (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 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 = pH-DO-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Flower Plate (MTP-48-BOH1)
Calibration device	Hardware ID: BL092-CX-4A7394
Calibration phase offset	pH 255.90 (pH Ser. 3403, gain 55)
Date of calibration	2021-03-09

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**DO calibration parameters Lot No.2102101 and 2102107 (BioLector® I, filter module ID-103/-303)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	71.87	71.83	71.80	71.77	71.74	71.71	71.67
ϕ cal100	42.32	42.05	41.78	41.51	41.24	40.98	40.71

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	71.64	71.61	71.58	71.54	71.51	71.48	71.45
ϕ cal100	40.44	40.17	39.90	39.64	39.37	39.10	38.83

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	71.42	71.38	71.35	71.32	71.29	71.26	71.22
ϕ cal100	38.56	38.30	38.03	37.76	37.49	37.23	36.96

**DO sensor properties**

Dynamic range	0 - 100 % air saturation (a.s.)
Resolution	Up to 0.5 % 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 PSt3-HG-1810-01_3 (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 = pH-DO-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Flower Plate (MTP-48-BOH1)
Calibration device	Hardware ID: BL092-CX-4A7394
Calibration phase offset	DO 332.50 (DO Ser. 3402, gain 70)
Date of calibration	2021-03-09

**Sterilization procedure**

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	867189
Date of sterilization	2021-03-03

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