

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

**pH calibration parameters Lot No. 2006221 (BioLector® Pro, filter module ID-221/-421)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	67.75	67.70	67.65	67.60	67.55	67.50	67.44
φ max	10.38	10.33	10.27	10.22	10.17	10.12	10.07
dpH	0.68	0.68	0.68	0.68	0.68	0.68	0.68
pH <sub>0</sub>	6.08	6.07	6.06	6.05	6.04	6.04	6.03
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	67.39	67.34	67.29	67.24	67.19	67.13	67.08
φ max	10.02	9.96	9.91	9.86	9.81	9.76	9.71
dpH	0.68	0.68	0.68	0.68	0.68	0.68	0.68
pH <sub>0</sub>	6.02	6.01	6.00	5.99	5.98	5.98	5.97
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	67.03	66.98	66.93	66.88	66.82	66.77	66.72
φ max	9.65	9.60	9.55	9.50	9.45	9.40	9.34
dpH	0.68	0.68	0.68	0.68	0.68	0.68	0.68
pH <sub>0</sub>	5.96	5.95	5.94	5.93	5.93	5.92	5.91

**pH sensor properties**

Dynamic range	pH 3.70 – 8.00
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.30 – 4.70; ± 0.1 pH at pH 4.70 – 6.95; ± 0.25 pH at pH 6.95 – 7.35 (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 LG1-1840-01 (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 = Microfluidic Flower Plate (MTP-MF32C-BOH2)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	pH -360.20 (pH Ser. 3305, gain 8)
Date of calibration	2020/06/02

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**DO calibration parameters Lot No. 2006221 (BioLector® Pro, filter module ID-228/-428)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	71.19	71.17	71.16	71.14	71.13	71.11	71.10
ϕ cal100	42.09	41.93	41.77	41.61	41.45	41.30	41.14
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	71.08	71.07	71.05	71.04	71.02	71.01	70.99
ϕ cal100	40.98	40.82	40.67	40.51	40.35	40.19	40.03
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	70.97	70.96	70.94	70.93	70.91	70.90	70.88
ϕ cal100	39.88	39.72	39.56	39.40	39.25	39.09	38.93

**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-m2p-A 200950182 (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 = Microfluidic Flower Plate (MTP-MF32C-BOH2)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	DO -360.50 (DO Ser.4302-RD, gain 4)
Date of calibration	2020/06/02

**Sterilization procedure**

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	766620
Date of sterilization	2020/05/25

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