

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

### pH calibration parameters Lot No. 1706 (BioLector® II/Pro, filter module ID-221)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
$\phi$ min	66.79	66.54	66.29	66.04	65.79	65.54	65.29
$\phi$ max	9.50	9.42	9.34	9.27	9.19	9.11	9.03
dpH	0.69	0.69	0.69	0.69	0.69	0.69	0.69
pH <sub>0</sub>	6.14	6.12	6.11	6.10	6.08	6.07	6.06
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
$\phi$ min	65.03	64.78	64.53	64.28	64.03	63.78	63.52
$\phi$ max	8.95	8.88	8.80	8.72	8.64	8.56	8.48
dpH	0.69	0.69	0.69	0.69	0.69	0.69	0.69
pH <sub>0</sub>	6.04	6.03	6.02	6.00	5.99	5.98	5.96
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
$\phi$ min	63.27	63.02	62.77	62.52	62.27	62.02	61.76
$\phi$ max	8.41	8.33	8.25	8.17	8.09	8.02	7.94
dpH	0.69	0.69	0.69	0.69	0.69	0.69	0.69
pH <sub>0</sub>	5.95	5.93	5.92	5.91	5.89	5.88	5.87

### pH sensor properties

Dynamic range	pH 3.35 - 8.40
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 3.80 - 4.30; ± 0.1 pH at pH 4.30 – 7.30; ± 0.25 pH at pH 7.30 - 7.90 (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 LG1-1629 (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 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 FlowerPlate (MTP-MF32-BOH)
Calibration device	Hardware ID: BL-02-000F-0033
Calibration phase offset	pH -360.85 (pH Ser.3146-RD, gain 8)
Date of calibration	2017/04/10

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### DO calibration parameters Lot No. 1706 (BioLector® II/Pro, filter module ID-228)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	67.50	67.48	67.45	67.43	67.40	67.38	67.35
φ cal100	42.97	42.75	42.53	42.31	42.09	41.87	41.66
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	67.33	67.30	67.28	67.25	67.23	67.20	67.18
φ cal100	41.44	41.22	41.00	40.78	40.56	40.34	40.12
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	67.15	67.13	67.10	67.08	67.05	67.03	67.00
φ cal100	39.90	39.68	39.46	39.24	39.02	38.80	38.58

### 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 (t90)	< 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-1602 (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 FlowerPlate (MTP-MF32-BOH)
Calibration device	Hardware ID: BL-02-000F-0033
Calibration phase offset	DO -360.68 (DO Ser.4128-RD, gain 4)
Date of calibration	2017/04/10

### Sterilization procedure

Sterilization	Gamma irradiation (15 kGy)
BGS-certificate No	353634
Date of sterilization	2017/03/26

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