

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

**pH calibration parameters Lot No. 2008221 (BioLector® Pro, filter module ID-221/-421)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
$\phi$ min	66.81	66.76	66.72	66.68	66.64	66.60	66.55
$\phi$ max	8.73	8.71	8.69	8.67	8.64	8.62	8.60
dpH	0.63	0.63	0.63	0.63	0.63	0.63	0.63
pH <sub>0</sub>	6.03	6.02	6.02	6.01	6.00	5.99	5.99
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
$\phi$ min	66.51	66.47	66.43	66.38	66.34	66.30	66.26
$\phi$ max	8.58	8.55	8.53	8.51	8.49	8.46	8.44
dpH	0.63	0.63	0.63	0.63	0.63	0.63	0.63
pH <sub>0</sub>	5.98	5.97	5.96	5.96	5.95	5.94	5.94
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
$\phi$ min	66.22	66.17	66.13	66.09	66.05	66.01	65.96
$\phi$ max	8.42	8.40	8.37	8.35	8.33	8.31	8.29
dpH	0.63	0.63	0.63	0.63	0.63	0.63	0.63
pH <sub>0</sub>	5.93	5.92	5.91	5.91	5.90	5.89	5.88

**pH sensor properties**

Dynamic range	pH 3.75 - 7.80
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.35 - 4.70; ± 0.1 pH at pH 4.70 – 6.90; ± 0.25 pH at pH 6.90 - 7.25 (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 -360.15 (pH Ser. 3305, gain 8)
Date of calibration	2020/08/13

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### DO calibration parameters Lot No. 2008221 (BioLector® Pro, filter module ID-228/-428)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	69.01	69.00	68.99	68.98	68.98	68.97	68.96
ϕ cal100	40.50	40.38	40.26	40.14	40.02	39.90	39.78
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	68.96	68.95	68.94	68.94	68.93	68.92	68.91
ϕ cal100	39.66	39.54	39.42	39.30	39.18	39.06	38.94
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	68.91	68.90	68.89	68.89	68.88	68.87	68.87
ϕ cal100	38.82	38.70	38.58	38.45	38.33	38.21	38.09

### 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-m2p-A 202050527 (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 -360.44 (DO Ser.4302-RD, gain 4)
Date of calibration	2020/08/12

### Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	790058
Date of sterilization	2020/08/06

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