

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

### pH calibration parameters Lot No. 1807 (BioLector® II/Pro, filter module ID-221)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
$\phi$ min	68.31	68.21	68.10	68.00	67.89	67.79	67.68
$\phi$ max	12.94	12.84	12.74	12.64	12.54	12.44	12.34
dpH	0.76	0.76	0.76	0.76	0.76	0.76	0.76
pH <sub>0</sub>	6.33	6.32	6.31	6.30	6.29	6.28	6.27
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
$\phi$ min	67.58	67.48	67.37	67.27	67.16	67.06	66.95
$\phi$ max	12.24	12.13	12.03	11.93	11.83	11.73	11.63
dpH	0.76	0.76	0.76	0.76	0.76	0.76	0.76
pH <sub>0</sub>	6.26	6.25	6.24	6.23	6.22	6.21	6.20
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
$\phi$ min	66.85	66.74	66.64	66.53	66.43	66.32	66.22
$\phi$ max	11.53	11.43	11.33	11.23	11.13	11.03	10.93
dpH	0.76	0.76	0.76	0.76	0.76	0.76	0.76
pH <sub>0</sub>	6.19	6.18	6.18	6.17	6.16	6.15	6.14

### pH sensor properties

Dynamic range	pH 2.45 - 8.80
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 3.40 - 5.25; ± 0.1 pH at pH 5.25 - 6.40; ± 0.25 pH at pH 6.40 - 8.05 (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 LG1-1737-01 (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 3.00 ± 0.01 / pH 4.00 ± 0.015 / pH 9.00 ± 0.01 / pH 10.00 ± 0.03, 20 °C); 150 mM Citrate-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-0032
Calibration phase offset	pH -360.78 (pH Ser.3188-RD, gain 8)
Date of calibration	2018/03/28

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**DO calibration parameters Lot No. 1807 (BioLector® II/Pro, filter module ID-228)**

Temperature	<b>20°C</b>	<b>21°C</b>	<b>22°C</b>	<b>23°C</b>	<b>24°C</b>	<b>25°C</b>	<b>26°C</b>
ϕ cal0	68.85	68.82	68.79	68.76	68.72	68.69	68.66
ϕ cal100	43.84	43.61	43.37	43.13	42.89	42.65	42.42
Temperature	<b>27°C</b>	<b>28°C</b>	<b>29°C</b>	<b>30°C</b>	<b>31°C</b>	<b>32°C</b>	<b>33°C</b>
ϕ cal0	68.63	68.60	68.57	68.53	68.50	68.47	68.44
ϕ cal100	42.18	41.94	41.70	41.47	41.23	40.99	40.75
Temperature	<b>34°C</b>	<b>35°C</b>	<b>36°C</b>	<b>37°C</b>	<b>38°C</b>	<b>39°C</b>	<b>40°C</b>
ϕ cal0	68.41	68.38	68.34	68.31	68.28	68.25	68.22
ϕ cal100	40.51	40.28	40.04	39.80	39.56	39.32	39.09

**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-01/2017 (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-0032
Calibration phase offset	DO -360.52(DO Ser.4170-RD, gain 4)
Date of calibration	2018/03/28

**Sterilization procedure**

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	483330
Date of sterilization	2018/03/22

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