

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

**pH calibration parameters Lot No. 2012221 (BioLector® Pro, filter module ID-221/-421)**

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>
$\phi$ min	67.77	67.69	67.61	67.53	67.46	67.38	67.30
$\phi$ max	13.66	13.58	13.51	13.43	13.36	13.28	13.21
dpH	0.78	0.78	0.78	0.78	0.78	0.78	0.78
pH <sub>0</sub>	6.67	6.66	6.65	6.64	6.63	6.62	6.61
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>
$\phi$ min	67.23	67.15	67.07	66.99	66.92	66.84	66.76
$\phi$ max	13.13	13.06	12.98	12.91	12.83	12.76	12.68
dpH	0.78	0.78	0.78	0.77	0.77	0.77	0.77
pH <sub>0</sub>	6.60	6.59	6.58	6.57	6.56	6.55	6.54
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>
$\phi$ min	66.68	66.61	66.53	66.45	66.38	66.30	66.22
$\phi$ max	12.61	12.53	12.46	12.38	12.31	12.23	12.16
dpH	0.77	0.77	0.77	0.77	0.77	0.77	0.77
pH <sub>0</sub>	6.53	6.52	6.51	6.50	6.49	6.48	6.47

**pH sensor properties**

Dynamic range	pH 4.0-8.6
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.75- 5.25; ± 0.1 pH at pH 5.25 - 7.45; ± 0.25 pH at pH 7.45 - 7.9 (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 LG1-1939-01_2 (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-MF32-BOH2)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	pH -360.149994 (pH Ser. 3305, gain 8)
Date of calibration	2031/01/12

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**DO calibration parameters Lot No. 2012221 (BioLector® Pro, filter module ID-228/-428)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	70.01	70.00	69.98	69.97	69.95	69.94	69.93
ϕ cal100	41.71	41.50	41.30	41.09	40.89	40.68	40.48
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	69.91	69.90	69.88	69.87	69.85	69.84	69.83
ϕ cal100	40.27	40.07	39.86	39.66	39.45	39.25	39.04
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	69.81	69.80	69.78	69.77	69.75	69.74	69.73
ϕ cal100	38.84	38.63	38.43	38.22	38.02	37.81	37.61

**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 204150648 (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-MF32-BOH2)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	DO -360.440002 (DO Ser.4302-RD, gain 4)
Date of calibration	2021/01/12

**Sterilization procedure**

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	840289
Date of sterilization	2020/12/17

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