

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

**pH calibration parameters Lot No. 2010301 (BioLector® II/Pro, filter module ID-424)**

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	70.99	71.07	71.15	71.23	71.31	71.39	71.47
$\phi$ max	13.95	13.98	14.01	14.04	14.07	14.10	14.13
dpH	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48	-0.48
pH <sub>0</sub>	5.28	5.28	5.28	5.27	5.27	5.26	5.26
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	71.55	71.63	71.71	71.79	71.87	71.95	72.03
$\phi$ max	14.16	14.19	14.22	14.25	14.28	14.31	14.34
dpH	-0.47	-0.47	-0.47	-0.47	-0.47	-0.47	-0.47
pH <sub>0</sub>	5.25	5.25	5.25	5.24	5.24	5.23	5.23
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	72.11	72.19	72.27	72.35	72.43	72.51	72.59
$\phi$ max	14.37	14.40	14.44	14.47	14.50	14.53	14.56
dpH	-0.47	-0.47	-0.47	-0.47	-0.47	-0.47	-0.47
pH <sub>0</sub>	5.22	5.22	5.21	5.21	5.21	5.20	5.20

**pH sensor properties**

Dynamic range	pH 3.30- 6.75
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 3.70 - 3.95; ± 0.1 pH at pH 3.95 – 6.10; ± 0.25 pH at pH 6.10 - 6.30 (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	15 °C to 40 °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)
Basic material	pH sensor pH51-200950163-166 (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 7.00 ± 0.01 / pH 8.00 ± 0.03, 20 °C); 150 mM Citrat-Na-Phosphate buffer (16 solutions)
Settings	BioLector protocol = pH51-RF-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Flower Plate (MTP-48-BOH3)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	pH -360.10 (pH Ser. 3288, gain 6)
Date of calibration	2020/10/30

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### DO calibration parameters Lot No. 2010301 (BioLector® II/Pro, filter module ID-228/-428)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	69.69	69.68	69.67	69.66	69.66	69.64	69.64
φ cal100	42.36	42.16	41.97	41.78	41.78	41.39	41.39
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	69.61	69.60	69.59	69.58	69.57	69.56	69.55
φ cal100	41.01	40.81	40.62	40.43	40.24	40.04	39.85
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	69.54	69.53	69.52	69.51	69.50	69.49	69.48
φ cal100	39.66	39.47	39.27	39.08	38.89	38.70	38.50

### 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 202850572 (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 = pH51-RF-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Flower Plate (MTP-48-BOH3)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	DO -360.44 (DO Ser.4302-RD, gain 4)
Date of calibration	2020/10/30

### Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	815113
Date of sterilization	2020/10/15

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