

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

**pH calibration parameters Lot No. 2005312 (BioLector® 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	68.04	68.09	68.14	68.19	68.24	68.29	68.34
$\phi$ max	17.91	17.95	17.99	18.03	18.07	18.11	18.14
dpH	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38
pH <sub>0</sub>	5.30	5.30	5.29	5.29	5.29	5.28	5.28
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	68.39	68.44	68.49	68.54	68.59	68.64	68.69
$\phi$ max	18.18	18.22	18.26	18.30	18.34	18.37	18.41
dpH	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38
pH <sub>0</sub>	5.28	5.27	5.27	5.26	5.26	5.26	5.25
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	68.75	68.80	68.85	68.90	68.95	69.00	69.05
$\phi$ max	18.45	18.49	18.53	18.57	18.60	18.64	18.68
dpH	-0.38	-0.38	-0.38	-0.38	-0.37	-0.37	-0.37
pH <sub>0</sub>	5.25	5.24	5.24	5.24	5.23	5.23	5.22

**pH sensor properties**

Dynamic range	pH 3.90 – 6.40
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.15 – 4.35; ± 0.1 pH at pH 4.35 – 5.95; ± 0.25 pH at pH 5.95 - 6.10 (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 pH51-194150149 (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 = Microfluidic FlowerPlate (MTP-MF32-BOH3)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	pH -360.68 (pH Ser. 3288, gain 6)
Date of calibration	2020/04/29

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### DO calibration parameters Lot No. 2005312 (BioLector® Pro, filter module ID-228/-428)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	70.23	70.21	70.19	70.17	70.15	70.13	70.11
φ cal100	42.29	42.11	41.92	41.73	41.54	41.35	41.16
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	70.09	70.07	70.05	70.02	70.00	69.98	69.96
φ cal100	40.97	40.78	40.59	40.41	40.22	40.03	39.84
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	69.94	69.92	69.90	69.88	69.86	69.84	69.82
φ cal100	39.65	39.46	39.27	39.08	38.89	38.70	38.52

### 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 192050140 (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 = Microfluidic FlowerPlate (MTP-MF32-BOH3)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	DO -360.67 (DO Ser.4302-RD, gain 4)
Date of calibration	2020/04/29

### Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	754295
Date of sterilization	2020/04/20

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