

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

### pH calibration parameters Lot No. 1918 (BioLector® II/Pro. filter module ID-424)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
$\phi$ min	68.49	68.51	68.54	68.56	68.58	68.60	68.62
$\phi$ max	14.00	14.01	14.02	14.02	14.03	14.04	14.04
dpH	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38
pH <sub>0</sub>	5.28	5.28	5.27	5.27	5.27	5.27	5.27
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
$\phi$ min	68.64	68.66	68.68	68.70	68.72	68.74	68.76
$\phi$ max	14.05	14.06	14.06	14.07	14.08	14.08	14.09
dpH	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38
pH <sub>0</sub>	5.27	5.27	5.27	5.27	5.27	5.27	5.26
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
$\phi$ min	68.78	68.80	68.82	68.85	68.87	68.89	68.91
$\phi$ max	14.10	14.10	14.11	14.12	14.12	14.13	14.14
dpH	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38
pH <sub>0</sub>	5.26	5.26	5.26	5.26	5.26	5.26	5.26

### pH sensor properties

Dynamic range	pH 3.60 - 6.45
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 3.90 - 4.10; ± 0.1 pH at pH 4.10 - 5.95; ± 0.25 pH at pH 5.95 - 6.15 (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 pH51-184500008 (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-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 = FlowerPlate (MTP-48-BOH3)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	pH -360.68 (pH Ser. Prototype, gain 6)
Date of calibration	2019/03/11

#### HEADQUARTERS EUROPE

m2p-labs GmbH  
Arnold-Sommerfeld-Ring 2  
52499 Baesweiler. Germany  
Tel.: +49 - 2401 805 330  
Fax: +49 - 2401 805 33  
info@m2p-labs.com

#### USA / CANADA

m2p-labs. Inc.  
400 Oser Ave. Suite 1650  
Hauppauge. NY 11788. USA  
Phone: +1 631 501 1878  
Fax: +1 631 501 1060  
infoUS@m2p-labs.com

#### ASIA PACIFIC

m2p-labs Limited  
Unit 117. Biotech Centre 2. HKSTP  
Shatin. NT. Hong Kong  
Phone: +852 6092 6778  
Fax: +852 3594 6381  
infoAsia@m2p-labs.com

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### DO calibration parameters Lot No. 1918 (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	67.79	67.80	67.81	67.82	67.82	67.83	67.84
φ cal100	41.57	41.46	41.35	41.23	41.12	41.00	40.89
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	67.85	67.86	67.86	67.87	67.88	67.89	67.90
φ cal100	40.78	40.66	40.55	40.43	40.32	40.20	40.09
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	67.90	67.91	67.92	67.93	67.94	67.95	67.95
φ cal100	39.98	39.86	39.75	39.63	39.52	39.41	39.29

### 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-12/2018 (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 = FlowerPlate (MTP-48-BOH3)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	DO -360.39 (DO Ser.4170-RD, gain 4)
Date of calibration	2019/03/11

### Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	598020
Date of sterilization	2019/03/11

#### HEADQUARTERS EUROPE

m2p-labs GmbH  
Arnold-Sommerfeld-Ring 2  
52499 Baesweiler, Germany  
Tel.: +49 - 2401 805 330  
Fax: +49 - 2401 805 33  
info@m2p-labs.com

#### USA / CANADA

m2p-labs, Inc.  
400 Oser Ave. Suite 1650  
Hauppauge, NY 11788, USA  
Phone: +1 631 501 1878  
Fax: +1 631 501 1060  
infoUS@m2p-labs.com

#### ASIA PACIFIC

m2p-labs Limited  
Unit 117, Biotech Centre 2, HKSTP  
Shatin, NT, Hong Kong  
Phone: +852 6092 6778  
Fax: +852 3594 6381  
infoAsia@m2p-labs.com