

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

### pH calibration parameters Lot No. 1801 (BioLector® II/Pro, filter module ID-221)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
$\phi$ min	66.16	66.02	65.89	65.75	65.61	65.48	65.34
$\phi$ max	5.68	5.63	5.58	5.54	5.49	5.44	5.39
dpH	0.71	0.71	0.71	0.70	0.70	0.70	0.70
pH <sub>0</sub>	5.70	5.69	5.68	5.67	5.66	5.65	5.64
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
$\phi$ min	65.21	65.07	64.94	64.80	64.67	64.53	64.40
$\phi$ max	5.34	5.30	5.25	5.20	5.15	5.11	5.06
dpH	0.70	0.70	0.70	0.70	0.70	0.70	0.70
pH <sub>0</sub>	5.63	5.61	5.60	5.59	5.58	5.57	5.56
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
$\phi$ min	64.26	64.12	63.99	63.85	63.72	63.58	63.45
$\phi$ max	5.01	4.96	4.91	4.87	4.82	4.77	4.72
dpH	0.70	0.70	0.70	0.70	0.70	0.70	0.70
pH <sub>0</sub>	5.55	5.54	5.53	5.52	5.51	5.50	5.49

### pH sensor properties

Dynamic range	pH 2.05 - 8.40
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 2.80 - 3.90; ± 0.1 pH at pH 3.90 – 6.60; ± 0.25 pH at pH 6.60 - 7.65 (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 1.00 ± 0.01 / pH 2.00 ± 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	2018/02/05

### EUROPE

m2p-labs GmbH  
Arnold-Sommerfeld-Ring 2 | 52499 Baesweiler | Germany  
Phone +49-2401-805-330 | Fax: +49-2401-805-333  
info@m2p-labs.com | support@m2p-labs.com

### USA

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 | supportUS@m2p-labs.com

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

### DO calibration parameters Lot No. 1801 (BioLector® II/Pro, filter module ID-228)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	68.47	68.43	68.40	68.37	68.33	68.30	68.27
φ cal100	43.38	43.14	42.91	42.68	42.44	42.21	41.97
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	68.23	68.20	68.16	68.13	68.10	68.06	68.03
φ cal100	41.74	41.51	41.27	41.04	40.81	40.57	40.34
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	68.00	67.96	67.93	67.90	67.86	67.83	67.80
φ cal100	40.11	39.87	39.64	39.41	39.17	38.94	38.71

### 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	2018/02/05

### Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	464423
Date of sterilization	2018/02/01

#### EUROPE

m2p-labs GmbH  
Arnold-Sommerfeld-Ring 2 | 52499 Baesweiler | Germany  
Phone +49-2401-805-330 | Fax: +49-2401-805-333  
info@m2p-labs.com | support@m2p-labs.com

#### USA

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 | supportUS@m2p-labs.com