

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

### pH calibration parameters Lot No. 1931 (BioLector® II/Pro, filter module ID-202/-402)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	63.17	63.14	63.12	63.10	63.08	63.05	63.03
φ max	15.46	15.48	15.49	15.50	15.51	15.53	15.54
dpH	0.55	0.55	0.55	0.55	0.55	0.55	0.55
pH <sub>0</sub>	6.43	6.43	6.43	6.42	6.42	6.42	6.42
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	63.01	62.98	62.96	62.94	62.91	62.89	62.87
φ max	15.55	15.56	15.57	15.59	15.60	15.61	15.62
dpH	0.55	0.55	0.55	0.55	0.55	0.55	0.55
pH <sub>0</sub>	6.41	6.41	6.41	6.41	6.40	6.40	6.40
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	62.84	62.82	62.80	62.77	62.75	62.73	62.70
φ max	15.64	15.65	15.66	15.67	15.68	15.70	15.71
dpH	0.55	0.55	0.55	0.55	0.55	0.55	0.55
pH <sub>0</sub>	6.40	6.39	6.39	6.39	6.39	6.38	6.38

### pH sensor properties

Dynamic range	pH 4.50 - 7.95
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.95 - 5.25; ± 0.1 pH at pH 5.25 - 7.20; ± 0.25 pH at pH 7.20 - 7.50 (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 HP8-1811-01 (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 3.00 ± 0.01 / pH 4.00 ± 0.015 / pH 9.00 ± 0.01 / pH 10.00 ± 0.03, 20 °C); 150 mM Na-Phosphate buffer (16 solutions)
Settings	BioLector protocol = pH-DO-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = FlowerPlate (MTP-48-BOH1)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	pH -1.40 (pH Ser.3111, gain 7)
Date of calibration	2019/07/09

#### 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

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

### DO calibration parameters Lot No. 1931 (BioLector® II/Pro, filter module ID-203/403)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	71.57	71.54	71.52	71.50	71.48	71.46	71.43
φ cal100	43.03	42.94	42.86	42.77	42.68	42.59	42.50
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	71.41	71.39	71.37	71.35	71.33	71.30	71.28
φ cal100	42.41	42.32	42.24	42.15	42.06	41.97	41.88
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	71.26	71.24	71.22	71.20	71.17	71.15	71.13
φ cal100	41.79	41.70	41.62	41.53	41.44	41.35	41.26

### 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 Pst3-HG-1810-01 (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 = pH-DO-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = FlowerPlate (MTP-48-BOH1)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	DO -360.25 (DO Ser.4103, gain 7)
Date of calibration	2019/07/09

### Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	645838
Date of sterilization	2019/07/02

#### 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