

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

pH calibration parameters Lot No. 1953-S (BioLector® Pro, filter module ID-221/421)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	67.17	67.13	67.10	67.06	67.03	66.99	66.96
φ max	10.29	10.27	10.24	10.21	10.19	10.16	10.14
dpH	0.69	0.69	0.69	0.69	0.69	0.69	0.69
pH ₀	6.06	6.06	6.06	6.05	6.05	6.05	6.04
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	66.92	66.89	66.85	66.82	66.79	66.75	66.72
φ max	10.11	10.08	10.06	10.03	10.00	9.98	9.95
dpH	0.69	0.69	0.69	0.69	0.69	0.69	0.69
pH ₀	6.04	6.04	6.03	6.03	6.03	6.02	6.02
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	66.68	66.65	66.61	66.58	66.54	66.51	66.47
φ max	9.93	9.90	9.87	9.85	9.82	9.79	9.77
dpH	0.69	0.69	0.69	0.69	0.69	0.69	0.69
pH ₀	6.02	6.01	6.01	6.00	6.00	6.00	5.99

pH sensor properties

Dynamic range	pH 3.65 - 8.10
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.30 - 4.70; ± 0.1 pH at pH 4.70 – 7.05; ± 0.25 pH at pH 7.05 - 7.45 (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 LG1-1840-01 (at least stable for 7 days with CertiPUR-buffer) pH sensors are light-sensitive; please protect them from direct light!

pH calibration

Buffer	CertiPUR Reference Material Buffer solutions Set (pH 2.00 ± 0.01 / pH 3.00 ± 0.015 / pH 9.00 ± 0.01 / pH 10.00 ± 0.03, 20 °C); 150 mM Citrat-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-MF32C-BOH2)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	pH -360.31 (pH Ser.3188-RD, gain 8)
Date of calibration	2020/01/17

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.
 62-64 Enter Lane
 Islandia, NY 11749, 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 BioLection software!

DO calibration parameters Lot No. 1953-S (BioLector® Pro, filter module ID-228/428)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	67.78	67.77	67.76	67.75	67.74	67.73	67.72
φ cal100	39.58	39.50	39.41	39.32	39.24	39.15	39.07
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	67.71	67.70	67.69	67.68	67.67	67.66	67.65
φ cal100	38.98	38.89	38.81	38.72	38.64	38.55	38.47
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	67.64	67.63	67.62	67.61	67.60	67.59	67.59
φ cal100	38.38	38.29	38.21	38.12	38.04	37.95	37.86

DO sensor properties

Dynamic range	0 - 100 % air saturation (a.s.)
Resolution	Up to 0.1 % O ₂ (software)
Accuracy	± 5% dissolved oxygen (batch calibration)
Drift at 0% oxygen	< 0.5% O ₂ 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- m2p-A/ 192050140 (at least stable for 7 days with CertiPUR-buffer) DO sensors are light-sensitive; please protect them from direct light!

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-MF32C-BOH2)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	DO -360.39 (DO Ser.4170-RD, gain 4)
Date of calibration	2020/01/17

<

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	704556
Date of sterilization	2019/12/04

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.
62-64 Enter Lane
Islandia, NY 11749, 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