

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	64.24	64.18	64.13	64.07	64.02	63.96	63.91
ϕ max	6.93	6.90	6.88	6.85	6.83	6.80	6.78
dpH	0.67	0.67	0.67	0.67	0.67	0.67	0.67
pH ₀	5.84	5.84	5.84	5.83	5.83	5.83	5.82
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	63.85	63.80	63.74	63.69	63.63	63.58	63.52
ϕ max	6.75	6.73	6.71	6.68	6.66	6.63	6.61
dpH	0.67	0.67	0.67	0.67	0.67	0.67	0.67
pH ₀	5.82	5.82	5.81	5.81	5.81	5.80	5.80
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	63.47	63.41	63.36	63.30	63.25	63.19	63.14
ϕ max	6.58	6.56	6.53	6.51	6.48	6.46	6.44
dpH	0.67	0.67	0.67	0.67	0.67	0.67	0.67
pH ₀	5.80	5.79	5.79	5.79	5.78	5.78	5.77

pH sensor properties

Dynamic range	pH 3.35 – 7.85
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.20 – 4.60; ± 0.1 pH at pH 4.60 – 6.85; ± 0.25 pH at pH 6.85 – 7.25 (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 LG1-1816-01 (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	2019/12/10

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

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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	67.29	67.27	67.26	67.25	67.23	67.22	67.20
φ cal100	38.66	38.56	38.46	38.36	38.26	38.15	38.05
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	67.19	67.18	67.16	67.15	67.13	67.12	67.11
φ cal100	37.95	37.85	37.75	37.65	37.54	37.44	37.34
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	67.09	67.08	67.07	67.05	67.04	67.02	67.01
φ cal100	37.24	37.14	37.04	36.93	36.83	36.73	36.63

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	2019/12/10

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