

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

pH calibration parameters Lot No.2114221 (BioLector® Pro, filter module ID-221/-421)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	69.53	69.45	69.36	69.28	69.20	69.11	69.03
φ max	15.29	15.18	15.08	14.98	14.88	14.77	14.67
dpH	0.76	0.76	0.76	0.76	0.76	0.76	0.76
pH ₀	6.58	6.58	6.57	6.57	6.56	6.56	6.55

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	68.95	68.86	68.78	68.69	68.61	68.53	68.44
φ max	14.57	14.46	14.36	14.26	14.15	14.05	13.95
dpH	0.76	0.77	0.77	0.77	0.77	0.77	0.77
pH ₀	6.55	6.54	6.54	6.53	6.53	6.52	6.52

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	68.36	68.28	68.19	68.11	68.03	67.94	67.86
φ max	13.85	13.74	13.64	13.54	13.43	13.33	13.23
dpH	0.77	0.77	0.77	0.77	0.77	0.78	0.78
pH ₀	6.51	6.51	6.50	6.49	6.49	6.48	6.48

pH sensor properties

Dynamic range	pH 4.05 - 8.75
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.75-5.25; ± 0.1 pH at pH 5.25-7.55; ± 0.25 pH at pH 7.55-8.05 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 LG1-1939-01_2 (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 Flower Plate (MTP-MF32C-BOH2)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	pH -360.15 (pH Ser. 3305, gain 8)
Date of calibration	2021-10-20

HEADQUARTERS EUROPE

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

SUPPORT

EUROPE
Phone +49 - 2401 805 335
support@m2p-labs.com

N./S. AMERICAS
Phone +1 631 501 1878
supportUS@m2p-labs.com

ASIA PACIFIC
Phone +852 6092 6778
supportAsia@m2p-labs.com

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DO calibration parameters Lot No.2114221 (BioLector® Pro, filter module ID-228/-428)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	71.54	71.53	71.52	71.50	71.49	71.47	71.46
ϕ cal100	41.36	41.21	41.05	40.90	40.75	40.60	40.45

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	71.44	71.43	71.41	71.40	71.38	71.37	71.35
ϕ cal100	40.30	40.15	40.00	39.85	39.69	39.54	39.39

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	71.34	71.33	71.31	71.30	71.28	71.27	71.25
ϕ cal100	39.24	39.09	38.94	38.79	38.64	38.49	38.33

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 (t ₉₀)	< 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-21160296 (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 Flower Plate (MTP-MF32C-BOH2)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	DO -360.44 (DO Ser. 4302-RD, gain 4)
Date of calibration	2021-10-20

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	952124
Date of sterilization	2021-10-05

HEADQUARTERS EUROPE

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

SUPPORT

EUROPE
Phone +49 - 2401 805 335
support@m2p-labs.com

N./S. AMERICAS
Phone +1 631 501 1878
supportUS@m2p-labs.com

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