

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

pH calibration parameters Lot No. 1932 (BioLector® II/Pro, filter module ID-424)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	66.52	66.50	66.47	66.45	66.43	66.41	66.39
ϕ max	17.55	17.55	17.56	17.56	17.56	17.57	17.57
dpH	-0.41	-0.41	-0.41	-0.41	-0.41	-0.41	-0.41
pH ₀	5.20	5.20	5.20	5.20	5.19	5.19	5.19
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	66.37	66.35	66.33	66.31	66.29	66.27	66.25
ϕ max	17.57	17.58	17.58	17.58	17.59	17.59	17.59
dpH	-0.41	-0.41	-0.41	-0.41	-0.41	-0.41	-0.41
pH ₀	5.19	5.19	5.18	5.18	5.18	5.18	5.18
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	66.23	66.21	66.19	66.17	66.15	66.13	66.11
ϕ max	17.60	17.60	17.61	17.61	17.61	17.62	17.62
dpH	-0.41	-0.41	-0.40	-0.40	-0.40	-0.40	-0.40
pH ₀	5.17	5.17	5.17	5.17	5.17	5.17	5.16

pH sensor properties

Dynamic range	pH 3.50 - 6.30
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 3.80 - 4.00; ± 0.1 pH at pH 4.00 - 5.97; ± 0.25 pH at pH 5.75 - 5.95 (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	15 °C to 40 °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);
Basic material	pH sensor pH51-184500011 (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 7.00 ± 0.01 / pH 8.00 ± 0.03, 20 °C); 150 mM Citrat-Phosphate buffer (16 solutions)
Settings	BioLector protocol = pH51-RF-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = FlowerPlate (MTP-48-BOH3)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	pH -360.68 (pH Ser. 3289-RD, gain 6)
Date of calibration	2019/07/05

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

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DO calibration parameters Lot No. 1932 (BioLector® II/Pro, filter module ID-228/428)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	67.93	67.91	67.89	67.87	67.84	67.82	67.80
ϕ cal100	41.50	41.39	41.28	41.17	41.06	40.95	40.84
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	67.78	67.76	67.73	67.71	67.69	67.67	67.64
ϕ cal100	40.73	40.62	40.51	40.40	40.29	40.18	40.07
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	67.62	67.60	67.58	67.56	67.53	67.51	67.49
ϕ cal100	39.96	39.85	39.74	39.63	39.52	39.41	39.30

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-12/2018 (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 = pH51-RF-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = FlowerPlate (MTP-48-BOH3)
Calibration device	Hardware ID: BL-02-000F-0032
Calibration phase offset	DO -360.39 (DO Ser.4170-RD, gain 4)
Date of calibration	2019/07/05

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