

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

pH calibration parameters Lot No. 1935 (BioLector®)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	56.92	56.85	56.77	56.70	56.63	56.56	56.48
ϕ max	12.92	12.91	12.89	12.88	12.87	12.86	12.85
dpH	0.57	0.57	0.57	0.57	0.57	0.57	0.57
pH ₀	6.38	6.37	6.36	6.35	6.34	6.33	6.32
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	56.41	56.34	56.27	56.19	56.12	56.05	55.98
ϕ max	12.83	12.82	12.81	12.80	12.78	12.77	12.76
dpH	0.57	0.57	0.57	0.57	0.57	0.57	0.56
pH ₀	6.31	6.30	6.29	6.28	6.27	6.26	6.25
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	55.90	55.83	55.76	55.69	55.62	55.54	55.47
ϕ max	12.75	12.73	12.72	12.71	12.70	12.68	12.67
dpH	0.56	0.56	0.56	0.56	0.56	0.56	0.56
pH ₀	6.24	6.23	6.23	6.22	6.21	6.20	6.19

pH sensor properties

Dynamic range	pH 4.40 - 7.85
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.90 - 5.25; ± 0.1 pH at pH 5.25 - 7.00; ± 0.25 pH at pH 7.00 - 7.30 (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_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 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-BOH)
Calibration device	BioLector CX_110335 (BL092)
Calibration phase offset	pH 255.5 (pH Ser.3083-hc, gain 45)
Date of calibration	2019/08/29

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. 1935 (BioLector®)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	72.32	72.26	72.21	72.16	72.11	72.06	72.01
ϕ cal100	43.26	43.05	42.83	42.62	42.40	42.19	41.97
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	71.96	71.91	71.85	71.80	71.75	71.70	71.65
ϕ cal100	41.76	41.55	41.33	41.12	40.90	40.69	40.47
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	71.60	71.55	71.50	71.45	71.39	71.34	71.29
ϕ cal100	40.26	40.05	39.83	39.62	39.40	39.19	38.98

DO sensor properties

Dynamic range	0 - 100 % air saturation (a.s.)
Resolution	Up to 0.5 % O ₂ (software)
Precision (CV)	± 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 PST3-HG-1810-01_2 (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 = pH-DO-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = FlowerPlate (MTP-48-BOH)
Calibration device	BioLector CX_110335 (BL092)
Calibration phase offset	DO 332.4 (DO Ser.4084-hc, gain 48)
Date of calibration	2019/08/29

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	658230
Date of sterilization	2019/08/05

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