

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

pH calibration parameters Lot No. 1810 (BioLector®)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	58.10	58.00	57.89	57.78	57.68	57.57	57.47
ϕ max	16.53	16.51	16.49	16.48	16.46	16.44	16.42
dpH	0.51	0.51	0.51	0.51	0.51	0.51	0.51
pH ₀	6.48	6.47	6.47	6.46	6.46	6.45	6.45
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	57.36	57.25	57.15	57.04	56.94	56.83	56.72
ϕ max	16.41	16.39	16.37	16.36	16.34	16.32	16.30
dpH	0.51	0.51	0.51	0.51	0.51	0.51	0.51
pH ₀	6.44	6.43	6.43	6.42	6.42	6.41	6.41
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	56.62	56.51	56.40	56.30	56.19	56.09	55.98
ϕ max	16.29	16.27	16.25	16.23	16.22	16.20	16.18
dpH	0.51	0.50	0.50	0.50	0.50	0.50	0.50
pH ₀	6.40	6.40	6.39	6.38	6.38	6.37	6.37

pH sensor properties

Dynamic range	pH 3.90 - 8.50
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.40 - 5.10; ± 0.1 pH at pH 5.10 – 7.20; ± 0.25 pH at pH 7.20 - 7.95 (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	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 HP8-1427-02_4 (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	2018/04/20

EUROPE

m2p-labs GmbH
Arnold-Sommerfeld-Ring 2 | 52499 Baesweiler | Germany
Phone +49-2401-805-330 | Fax: +49-2401-805-333
info@m2p-labs.com | support@m2p-labs.com

USA

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 | supportUS@m2p-labs.com

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DO calibration parameters Lot No. 1810 (BioLector®)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	72.12	72.11	72.09	72.08	72.07	72.06	72.04
ϕ cal100	42.93	42.72	42.51	42.30	42.08	41.87	41.66
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	72.03	72.02	72.01	72.00	71.98	71.97	71.96
ϕ cal100	41.45	41.24	41.02	40.81	40.60	40.39	40.18
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	71.95	71.94	71.92	71.91	71.90	71.89	71.87
ϕ cal100	39.96	39.75	39.54	39.33	39.11	38.90	38.69

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-1742-02 (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	2018/04/20

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	490804
Date of sterilization	2018/04/16

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USA

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Phone +1-631-501-1878 | Fax +1-631-501-1060
infoUS@m2p-labs.com | supportUS@m2p-labs.com