

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

pH calibration parameters Lot No. 1606 (BioLector®)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	58.19	58.11	58.03	57.95	57.87	57.79	57.70
ϕ max	17.34	17.33	17.31	17.29	17.27	17.26	17.24
dpH	0.52	0.51	0.51	0.51	0.51	0.51	0.51
pH ₀	6.86	6.85	6.84	6.83	6.82	6.80	6.79
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	57.62	57.54	57.46	57.38	57.30	57.22	57.14
ϕ max	17.22	17.21	17.19	17.17	17.15	17.14	17.12
dpH	0.51	0.51	0.51	0.51	0.51	0.51	0.51
pH ₀	6.78	6.77	6.76	6.75	6.73	6.72	6.71
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	57.06	56.98	56.90	56.82	56.74	56.66	56.58
ϕ max	17.10	17.08	17.07	17.05	17.03	17.02	17.00
dpH	0.51	0.50	0.50	0.50	0.50	0.50	0.50
pH ₀	6.70	6.69	6.67	6.66	6.65	6.64	6.63

pH sensor properties

Dynamic range	pH 4.15 – 8.80
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.75 - 5.65; ± 0.1 pH at pH 5.65 – 7.35; ± 0.25 pH at pH 7.35 – 8.20 (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_3 (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 32)
Date of calibration	2016/06/14

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. 1606 (BioLector®)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	71.44	71.44	71.45	71.45	71.45	71.45	71.45
φ cal100	43.19	43.00	42.81	42.62	42.43	42.25	42.06
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	71.45	71.45	71.45	71.45	71.46	71.46	71.46
φ cal100	41.87	41.68	41.50	41.31	41.12	40.93	40.75
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	71.46	71.46	71.46	71.46	71.46	71.46	71.47
φ cal100	40.56	40.37	40.18	39.99	39.81	39.62	39.43

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-1426-03_3 (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 42)
Date of calibration	2016/06/14

Sterilization procedure

Sterilization	Gamma irradiation (15 kGy)
BGS-certificate No	249885
Date of sterilization	2016/06/02

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USA

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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